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A Summary Report



OPERATION DESERT SHIELD DESERT STORM

A SUMMARY REPORT

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1995



SGRD-UWI-A (360-5J)

25 MAY 95

MEMORANDUM FOR DEPUTY DIRECTOR, WRAIR

SUBJECT: Clearance of manuscript

1. Manuscript entitled: Operation Desert Shield: A Summary Report

2. By:

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2 F . D 15-4-	- Defense Technical	Information Ca	nter (DTIC)	
3. For Publication	n: Defense Technical	I Illormation Ce		Ω
4. Recommend for	or clearance by:	Trea	My 10	2 Shills
		C	Gregory Beler	nky (
			COL, MC Director, Divi	sion of Neuropsychiatry
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5. Referral to:	Dr. Fro	drick	Hesse	Eor Editorial Review
,	Sara	Rothine	a	Deputy Director, WRAIR
6. Clearance reco	ommended/not recom	mended:	1	
	Tude	right W	Heysl	Editorial Board Member
7. Comments/Ch	anges: Three			

REVIEWED BY DEPT MILPSY
DEPUTY CHIEF FOR SCIENCE
FORWARD FOR CLEARANCE

8 (Approved/Disapproved for publication:

AUGUST J. SALVADO

COL, MC

Director, WRAIR

DEPARTMENT OF MILITARY PSYCHIATRY WRAIR

TITLE:

Operation Desert Shield: A Summary Report

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Recommend Clearance for Publication

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'JUN 2 9 1995

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BW

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REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this gathering and maintaining the data needed, and completing and reviewing the collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215Jefferson collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215Jefferson collection of information, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.

Davis Highway, Suite 1204, Arlington, VA 22202-430	02, and to the Office of Management and	Budget, Paperwork Reduction Proj	ect (0/04-018	or COED
1. AGENCY USE ONLY (Leave blank)	2. REPORT DATE	3. REPORT TYPE AND	DATES C	DAFKED
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4. TITLE AND SUBTITLE			5. FUNDIN	GNUMBERS
Operation Desert Shield:	A Summary Report			
6. AUTHOR(S)	- Marilaria David H	phn:		
Wright, Kathleen M., PhD;	mariowe, David H.,	ohn.		
Martin, James A., PhD; G:	liford, Robert K., F	rio;		
Belenky, Gregory L., MD;		TCK U., FIID		
7. PERFORMING ORGANIZATION NAME	E(S) AND ADDRESS(ES)			RMING ORGANIZATION
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Washington, DC 20307-5100				
Washington, 20 1111				
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9. SPONSORING / MONITORING AGENC	CY NAME(S) AND ADDRESS(ES	5)		CY REPORT NUMBER
Army Medical Research and	d Development Commar	na		
Fort Detrick, MD 21701				
				•
11. SUPPLEMENTARY NOTES				
12a. DISTRIBUTION / AVAILABILITY ST	ATEMENT			RIBUTION CODE
APPROVED FOR PUBLIC RELE	ASE:		Unlimi	ted
Distribution Unlimited				
Disci indeion on in				
13. ABSTRACT (Maximum 200 words)				-t- 1990
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logical consequences of	deployment, combat,	and redeploymen	t to ho	me station
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The views of the authors are not necessarily those of the Department of the Army or the Department of Defense (para 4-3, AR 360-5).

ACKNOWLEDGEMENTS

We extend our thanks to all those soldiers who contributed thier time and shared their thoughts with us. Whatever lessons are contained in this document are due to them.

We also thank several members of the Department of Military Psychiatry who provided critical research support as this manuscript developed. Charles H. Hoover and Sgt. Glenn Litman constructed the data base and managed the scanning, processing and analysis throughout the study. Carla D. Porter and Morten G. Ender organized and classified the extensive notes collected in the field interviews over the course of the project. Diane P. Babski, Joann M. Defiore and Brenda M. Kowalewski provided invaluable assistance in the data analysis and report preparation phases of the project. And Sgt. John N. Valentine assumed an essential role in the design and organization of the text and graphics for the final report.

OPERATION DESERT SHIELD: A SUMMARY REPORT

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EXECUTIVE SUMMARY

In August 1990, the U.S. Army 82nd Airborne Division deployed to Saudi Arabia in response to Iraq's invasion of Kuwait. Over the next twelve months more than 500,000 U.S. Army, Navy, and Air Force military and civilian personnel deployed to the Persian Gulf region and became instrument of a successful United Nation's effort to evict Iraqi forces from Kuwait.

This technical report describes the initial phases of the Walter Reed Army Institute of Research (WRAIR) effort to provide the Army's senior leadership with information on the stress associated with the human dimensions of this extremely demanding combat deployment to a region of the world that also presented numerous physical, psychological, and social challenges to the health and well-being of soldiers. The focus of this report is the initial deployment and the precombat phase of the Gulf-War, a period commonly referred to as "Operation Desert Shield." Subsequent WRAIR reports will address the combat and post combat phases of the Gulf War.

Based on extensive observations and field interviews, and limited survey data, WRAIR scientists demonstrated the success of Army-level policies through small unit leaders' efforts to ensure soldiers' rapid adaptation to a harsh and alien environment. These efforts took place under circumstances where the duration of the deployment was yet unknown and where there was an ever present possibility of Iraqi aggression against initially lightly-equipped Army units. The threat was compounded by the expected Iraqi use of chemical and biological weapons. Clearly, the excellent pre-deployment readiness status of these Active Component Army units, including their

excellent training and correspondingly high levels of unit cohesion, contributed to this initial success.

A critical factor was concerned and creative leadership at all levels, making decisions that resulted in actions that buffered some of the inherent stresses. Among the most important efforts were rapid initiatives to provide basic relief from the physical stresses in the desert environment. These included the extensive use of bottled water to promote hydration and the establishment of base camps that allowed the infusion of basic creature comforts like showers, locally purchased food items to supplement MREs, opportunities for athletics, and most importantly the establishment of mail service and the subsequent availability of limited phone service linking soldiers to their families and other loved-ones in the United States. These and other human factor leadership efforts were the core ingredients of the successful pre-combat adaptation and sustainment of the Army units in Saudi Arabia.

The WRAIR research teams were able to document the persistent physical, psychological, and social stress inherent in this deployment. These researchers also observed the extreme operational demands placed on support units responsible for the task of sustaining the rapid infusion of combat forces in the theater of operations. In a number of cases, those support units faced with the greatest demands were also the units least prepared to cope with these stresses. A number of active and reserve component support units had been rapidly mobilized, infused with larger numbers of new members, and provided very little opportunity for pre-deployment individual and/or unit-level training. Many of these units initially preformed poorly and unit members experienced considerable stress. Units that eventually became cohesive and operationally

effective did so as a result of the considerable time lag that occurred between deployment and the actual commencement of offensive ground combat, affording them the time necessary to overcome deficits in peacetime individual and small-unit training. Some of these units were never able to pull it together and remained only marginally effective.

To a much lesser extent, WRAIR researchers encountered a few combat arms units experiencing similar problems. For the most part the reasons were very similar to those observed in support units, including the introduction of large numbers of "filler" personnel just before deploying, attaching sub-units that had never trained together, and most importantly, bringing to the desert environment serious home-station leadership problems that only became worse during the demanding pre-combat period.

This report documents important deployment and pre-combat human factor stress issues and the many effective actions taken by the Army leaders that helped set the stage for the very successful combat phase of the Gulf War. Subsequent WRAIR reports will address human dimension stress issues that occurred during the combat and post-combat phases of the Gulf War, including the stress experienced by families in the United States, as well as, the families of personnel deployed to the Persian Gulf from Europe.

INTRODUCTION

When United States forces deployed to the Persian Gulf in August, 1990, many senior military leaders were appropriately concerned about the psychological stress that would be created by this high-threat deployment to a harsh operational environment. To learn more about the stress of the deployment and how soldiers were adapting, the Army Deputy Chief of Staff for Personnel, Lieutenant General William Reno, at the behest of General Gordon Sullivan then Vice Chief of Staff of the Army, requested that Dr. David H. Marlowe, Chief, Department of Military Psychiatry, Walter Reed Army Institute of Research (WRAIR), take a research team to Saudi Arabia to study the deployment first hand. The team conducted an initial assessment of stress and adaptation in the Persian Gulf theater from the 22nd of September through the 6th of October 1990. A second team returned for additional interviews and surveys of soldiers and their leaders from the 11th of November through the 13th of December 1990.

This was the beginning of a program of research that extended throughout the Desert Shield deployment, through the combat and post-combat period of Desert Storm, the redeployment home, and soldier and unit follow-up a year later. The objective of this research program was to determine the psychological consequences of deployment, combat, and redeployment to home station for soldiers and their families. This report describes two research team visits during the Desert Shield deployment and pre-combat phase of the Gulf War. Together, these visits resulted in interviews with approximately 1,000 soldiers and their leaders, and the collection of more than 2800 self-administered questionnaires from soldiers in these same combat and combat support units.

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Method ...

In September, 1990, the initial phase of the Desert Shield research program began when a three-person team visited the Persian Gulf Theater. This first team conducted only interviews, deferring questionnaire administration until key issues were defined. More than 500 soldiers in divisional combat and combat support units took part in these initial semi-structured interviews (Gifford et al., 1991). Senior leaders were typically interviewed alone. Soldiers were usually interviewed in groups of less than ten, held in soldiers' work or living areas. Group interviews included soldiers of similar rank, without their supervisors being present. When possible, the interview strategy cut across organizational levels from a given unit. For example, within a battalion, the commander, command sergeant major, company commanders and first sergeants, platoon leaders, platoon sergeants, squad leaders, and squad members were interviewed separately. When operational or time constraints made it impossible to include all unit levels, enlisted soldiers and junior Non-commissioned Officers (NCOs) took priority rather than the senior leaders.

The units visited in September included maneuver battalions from each of the three divisions then in Saudi Arabia, as well as selected combat support and headquarters units in these divisions. Selection criteria for units were: the longest deployed; the most forward deployed; living under the most austere conditions; with missions judged particularly stressful by their higher

headquarters. While not a random sample, these selected units appeared to provide an adequate representation of the critical human dimension stress associated with this deployment.

Interviews took between 60 and 90 minutes and consisted of a chronological description of each stage of the deployment from the time of notification, up to the time of the interview. The focus concerned major stresses at each deployment stage, and individual resources, unit supports or leader actions that helped soldiers cope with these stresses. The interviews were open-ended and soldiers were encouraged to describe stresses and coping techniques they viewed as critical for their adaptation. These data provided the basis for the development of a subsequent study of the maturing theater, to include self-administered surveys as well as additional interviewing.

Findings

Adaptation to the Persian Gulf War Theater of Operations

Based on observations and interview data collected during the first team's visit to the Persian Gulf Theater of Operations (Gifford, et. al., 1991), it appeared that Army units had ensured their soldiers' rapid and successful adaptation to a physically, psychologically, and socially harsh and alien environment. Several expected problems either did not occur or were quickly controlled. For example, physical acclimatization went well, judging from the fact that units reported very few heat casualties and commanders did not cite this factor as a major problem. Units ensured adequate hydration of soldiers and devoted their first few days in Saudi Arabia to acclimatization, starting with moderate work schedules and increasing workload at reasonable rates. Soldiers reported that it took about a week to "really be able to take the heat."

The success of the hydration program was enhanced by the extensive use of Saudi Arabian bottled water. The convenience and wide availability of this water, combined with its pleasant (or at least neutral) taste made it popular with soldiers. Soldiers typically carried a bottle of this water and sipped from it as they went about their duties - the ideal way to achieve hydration.

Sleep discipline also contributed to successful adaptation. Most units had command policies to ensure that soldiers obtained adequate sleep. The major exceptions were selected unit leaders, higher headquarters staff, and certain members of support units. In these cases, extreme work demands were not matched by sleep discipline and many of these soldiers, including key leaders and staff, experienced chronic sleep deprivation. This appeared to have a self-feeding effect: as workload decreased, exhausted individuals were still putting in as many hours because it took them longer to complete cognitive tasks.

The absence of alcohol in the theater was not related to any obvious behavioral or medical problems. On the contrary, the absence of alcohol was cited by both leaders and soldiers as a major factor in the excellent safety record achieved by the Army during the initial deployment. There were no significant problems with "closet" alcoholics having adverse reactions to enforced abstinence. As of the beginning of October, medical evacuation records showed only two soldiers who had been evacuated from the theater because of overt symptoms of alcohol withdrawal.

Male-female work relationships were another example of successful adaptation. Females, especially those working in urban areas where there was a likelihood of contact with Saudi civilians, had to adjust to a number of cultural constraints that did not affect their male peers.

While these were obviously upsetting experiences, women typically attempted to face the

constraints with good humor. More importantly, they received social support from the men in their units. For example, in one unit when women were required to keep their uniform blouses on in the work place despite oppressive heat and humidity, the men voluntarily followed suit.

Normally, in these situations all soldiers would be able to remove their camouflage shirt and work in their uniform tee-shirt.

In a number of cases men and women in the same units lived together under extremely crowded conditions in tents or unairconditioned warehouses. Here, the distinction between the men in one's own unit and "outsiders" was important. The women interviewed did not report sexual harassment from the male members of their own unit. As one young woman said: "We know their wives and girlfriends, so we don't expect trouble." Most women believed that if sexual harassment did become a problem in the future, it would be from men in other units. There were reported instances of men congregating around female shower areas, but these seemed to be men from outside the primary work group, and often the solution was for the women to be escorted by the men from their own unit. Soldiers also devised simple solutions to issues of male-female privacy, for example, hanging blankets to create areas for changing clothes. Several women stated that they preferred living in the same quarters as the men in their units to the alternative of living in separate, all female, quarters with members of other units. While there were some divisional units that experienced episodes of male-female sexual activity, and subsequently chose to house their soldiers in separate-sex housing, this behavior appeared to be the exception rather than the rule.

Morale and Cohesion, Long to the state of the companies o

At the time of the first team's visit to the theater in September, 1990, morale was generally good and small unit cohesion was high. Although soldiers found conditions stressful and had complaints about a variety of issues related to the deployment, they were successfully enduring the uncertain situation, primitive living conditions and separation from family and friends.

Problems in either unit morale or cohesion generally could be traced to factors in the unit that existed before the deployment. Units with apparent deficiencies in trust or communication up and down the chain of command prior to this deployment in most cases did not improve as a result of being deployed. On the contrary, during the first months of the Gulf War (Operation Desert Shield) the stresses and close physical proximity in living conditions often exacerbated problems that had existed back home. Similarly, individual problems that existed at the home installation continued or became worse after deployment. While instances of poor individual morale or weak unit cohesion were distressing to the soldiers involved, it is important to note that, based on both interview and survey data, the majority of military units and individual soldiers in divisional units appeared to be coping well in a highly stressful and demanding environment.

Several factors worked to enhance unit cohesion. Among the most important were the potential threat of combat and the process of living and working together 24 hours a day in a hostile environment. Horizontal cohesion (the bonding that occurs between unit members) developed rapidly and powerfully. As one squad put it: "Our closeness to each other keeps us going. We share letters, share everything. We are 100% behind each other." This cohesion was reinforced by good vertical bonding (the bonding that develops between soldiers and their

leaders). As one squad noted: "Our platoon sergeant, he's really good, he's military in the best sense. He really cares, he gives us time, he talks to us, shows us consideration and treats us like adults"

The first team's observations concerning the development of cohesion in the initial deployed units were supported by survey data collected in December, 1990, by the second research team. (The details of the second teams work are described later in this report). At that time, approximately 1300 soldiers representing 32 companies from XVIIIth Airborne Corps rated cohesion in their units. Of these, 27 companies had vertical cohesion scale scores that averaged higher than the mean scores found in WRAIR studies conducted from 1985 through 1989, across approximately 90-110 active component combat arms companies (Marlowe, et.al., 1985; 1986a; 1986b; 1986c; 1987). Twenty-six of 32 companies assessed during Desert Shield were higher on the horizontal cohesion scale (See Figures 1 and 2).

Stress in the Gulf War Theater of Operations

The initial phase of the deployment was one of rapid transition. This force had deployed to deter an attack on Saudi Arabia, and they had succeeded in that so far. The announcements that the U.S. led United Nations' Coalition would consider offensive action to force Iraq out of Kuwait, that United States forces were there for the duration, and that the United Nations would authorize use of force after January 15, had not yet occurred. During this early period, U.S. Army combat forces were continuing to move into defensive positions in the desert, but for how long or to what end were not yet clear.

Under such circumstances, it was not surprising that the most commonly - and intensely - cited stress for soldiers of all ranks was the uncertainty of the tour length. As one soldier put it:

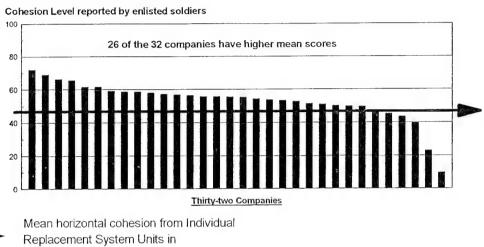
"This is like a long pause on the VCR of life." In the absence of a Pentagon decision regarding tour length, soldiers developed a general expectation that the tour length should be six months. However, most stated that any definite tour length would be preferable to the uncertainty that ruled their lives at that point.

The uncertainty about rotation was compounded by the ambiguous demands placed on soldiers as commanders simultaneously prepared for possible combat, and for prolonged deployment without combat. These two tracks were sometimes in conflict, and frequently led to inconsistent or confusing policies. For example, soldiers in some units were required by their unit leaders to wear Kevlar helmets at all times - even to the latrine at night - in order to be combat ready. However, these same soldiers were not training for likely combat missions, and were not given ammunition when on guard, even though they were frequently warned by the same unit leaders about terrorist threats.

Soldiers also felt extremely isolated from the outside world. Mail service at this point in the deployment was slow and erratic (letters typically took 10 days to get to Saudi Arabia, but it was not uncommon for letters to take over 3 weeks to reach a soldier in a forward position).

Figure 1. Horizontal Cohesion: Desert Shield

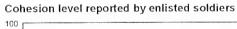
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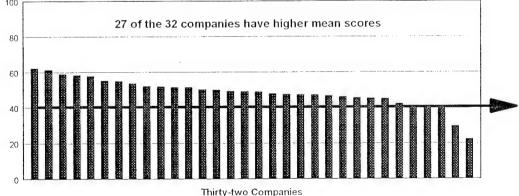


New Manning System Study

Figure 2. Vertical Cohesion: Desert Shield

(Nov-Dec, 1990)





Mean vertical cohesion from Individual Replacement System Units in New Manning System Study

Most soldiers, except those at senior headquarters units in urban areas, had no access to telephones and were able to call their families only if the unit received word of some type of family emergency that justified the time-consuming measures necessary to get a soldier to a telephone. While special programs to get easy telephone access to soldiers were appreciated by those few soldiers who could take advantage of them, the availability of telephones for the majority of soldiers was extremely limited during the early phase of the Gulf War.

The soldiers' sense of isolation also extended to news media access as well.

Soldiers in forward units received newspapers several days late, if at all, and could get current news only from BBC radio and Iraqi radio propaganda broadcasts. Lack of timely information about the current status of events in the Gulf, and about such mundane issues as sports news, was cited frequently as stressful. The members of one squad stated: "The only thing we know is that we are somewhere in Saudi Arabia and Iraq is North. We don't know where we are at or what is going on. We don't know who's in front of us, what Saddam is doing or what the President is doing. All we have are rumors." Many unit commanders recognized this problem, and a few were quite skilled at establishing mechanisms to get information to their soldiers. However, most unit commanders (battalion-level and below) did not have good access to news themselves.

Unfortunately, the rumors that developed in the absence of factual information only served to increase the overall stress level.

The fact that soldiers were together, usually under conditions of either crowding at transition points and staging areas, or isolated in the desert, 24 hours a day, seven days a week, also contributed to tension. While most military units are accustomed to the demands associated

with deployments that last for periods of a few weeks, most of the soldiers interviewed had never before lived with no respite from the chain of command for so long, and with no end in sight. In the early days of the Desert Shield deployment, even if the mission allowed a day off (which in practice usually meant a few hours off and relatively light duty the rest of the day), there was no place for a soldier to go where he (or she) could be away from the chain of command, or relax without being under scrutiny. Both soldiers and leaders badly needed some private time when they could be away from role demands for even a few hours.

Conclusions

The preceding observations and interview data from the first team's visit to Saudi Arabia provides a snapshot of the early deployment and a rapidly evolving theater of combat operations. Overall, U.S. Army units coped remarkably well during this period despite the obvious stress of a difficult and complicated large scale operation in an extremely austere environment filled with tension and uncertainty. Some of the stresses noted on this initial visit were ameliorated later on, either by the normal maturation of the theater, as goods and services became more available, or by conscious corrective actions on the part of senior military leaders.

The data collected on the first team's visit resulted in a semi-structured interview guide (see Appendix A) and two survey questionnaires: one version for enlisted soldiers and one version for leaders (see Appendices B and C). A second team visited the theater in November-December, 1990, and used these instruments as part of a continued assessment of soldier and unit adaptation during the Gulf War.

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During the second team's visit to the Persian Gulf, approximately 1300 soldiers completed survey questionnaires and about 800 soldiers and leaders were interviewed in semi-structured individual or group sessions. Selected units represented a convenience sample of combat arms and support units from the four Army divisions then in the Persian Gulf theater.

Instruments

Interview Guide: The semi-structured interviews lasted between 60 and 90 minutes and followed a chronological description from the time soldiers were notified of the deployment, through their preparation and leave-taking, to their arrival in Saudi Arabia. The interviews reexamined issues raised in the earlier phase of the deployment, and determined changes and new influences on current status. Interview topic areas continued to address adaptation to the deployment, unit morale, and the development of cohesion, but also focused more extensively on leadership issues, family concerns and problems, and anticipation of combat (see Appendix A for Interview Guidelines).

Survey Data: The survey was administered at unit field sites and took about 45 minutes to complete. Items included: demographic and military background information; perceptions about Army family support efforts; measures of horizontal and vertical unit cohesion; soldiers'

perceptions of their leaders' effectiveness; sections in which soldiers rated the stressfulness of various aspects of the deployment, to include 13 items concerning anticipation of combat; the use and effectiveness of different coping techniques; and a measure of psychological distress, the Brief Symptom Inventory (Derogatis & Spencer, 1982). Almost 1200 soldiers with ranks of Staff Sergeant (SSG/E-6) and below, and 124 leaders with ranks of Sergeant First Class (SFC/E7) and above completed surveys (see Appendix B for Shield enlisted survey, and Appendix C for Shield leader survey). In this dispersed field environment it was not possible to keep an accurate count of who did or did not complete a survey. The team's impression was that most soldiers who were given the survey filled it out and that non-responders were primarily those whose duties precluded their receiving the survey.

In January, 1991 (after the start of the Air War), a shortened version of the questionnaire was administered in a VIIth Corps division. The abbreviated version included the demographic and military background information; items about family support and concerns; unit cohesion measures; a shortened symptom inventory; and anticipation of combat stress ratings (see Appendix D for Storm Short Survey). At that time, approximately 1500 surveys were collected from a convenience sample of soldiers with ranks of Staff Sergeant and below.

Sample Composition

Desert Shield Surveys: Soldiers in the Desert Shield enlisted sample (n=1167) were members of combat arms maneuver battalions (therefore all males). They completed the survey in November-December, 1990. Forty-six percent (46%) were married and 39% had at least one

child. Eighty-seven percent (87%) of the enlisted sample were under thirty years of age. Ninety-nine percent (99%) were high school graduates, and over 35% had some college. Sixty-seven percent (67%) were White, 19% were Black and approximately 13% were Hispanic or other. Approximately 96% ranked between Private First Class (PFC/E-3) and Staff Sergeant (SSG/E-6). Ninety-two percent (92%) of the sample had served in the Army for at least one year, and approximately two thirds had been in their squad/section for at least three months before the deployment occurred.

The 124 soldiers in the Desert Shield leader sample (SFC and above) were also all males, with 74% married and almost 60% having at least one child. Approximately 55% had at least some college. Sixty-nine percent (69%) were White, 22% were Black, and approximately ten percent were Hispanic or other. For the leader sample, almost 50% were Senior NCOs in the ranks of SFC (E7), MSG/1SG (E8), and SGM/CSM (E9); and approximately 47% were Junior grade Officers (2LT, 1LT, and CPT). Approximately 66% had been on active duty more than five years, with 54% having served more than ten years. The leader sample was an older group with more than half (56%) ranging from 30 to 40 years of age. Seventy-five percent (75%) of the leader sample had served with their units at least three months prior to the deployment.

Desert Storm Survey: 1544 soldiers completed the shortened version of the survey in January, 1991, prior to the start of the Air War. All were males and 85% of them were under the age of thirty. Forty-seven percent (47%) were married, with 44% having at least one child. Ninety-nine percent (99%) were high school graduates, and more than one third had some

college. Approximately 62% were White, 23% were Black and 14% were Hispanic or other. Soldiers in the Desert Storm sample were all enlisted with approximately 90% between the ranks of Private First Class (PFC/E-3) and Staff Sergeant (SSG/E-6). Eighty-seven percent (87%) of the Storm sample had served in the Army for at least one year, and almost two thirds (62%) of them had been in their squad/section for at least three months prior to deployment. Table 1 summarizes the demographics for the Desert Shield and Storm enlisted samples.

Findings

The rest of this section is organized into topic areas with discussion integrating both survey and interview data. Wherever possible, tables and figures summarize the quantitative findings discussed in the text. The interviews provide context for the survey data, with vignettes and soldiers' personal reflections and stories as illustrations. Where relevant, contrasts and changes from the observations and interview data collected by the first team are noted.

Table 1. Sample Demographics

		SHIELD	STORM
		N=1167	N=1544
Age:	19-21	36.9	37.2
	22-25	33.2	28.4
	26-29	16.9	18.9
	30-33	8.0	10.0
	34-37	3.3	3.7
	38-41	1.3	0.6
	42-45	0.5	0.3
	46+	0.2	0.3
Ethnic Group:	White	67.4	62.5
	Black	19.2	23.3
	Hispanic	8.7	9.4
A	Other	4.7	4.8
Marital Status:	Single	47.4	47.0
	Married	45.5	46.6
	Separated/Divorced	5.7	5.4
	Other	1.4	1.0
Number of Children:	None	60.9	56.0
	1 Child	18.3	19.1
	2 Children	13.3	15.5
	3 Children	5.6	6.9
	4 or more	2.0	2.5
Education:	Some High School	0.5	0.8
	High School	54.7	58.2
	Diploma		*
	GED	6.9	7.7
	Some College	35.4	30.3
	College Graduate	2.3	2.8
	Graduate Training	0.2	0.3
Rank:	PVI	0.7	1.4
	PV2	3.0	9.4
	PFC	24.8	20.4
	SPC/CPL	40.0	35.8
	SGT	21.3	22.7
	SSG	10.3	11.4
Time on Active Duty:	Up to 1 year	8.0	12.9
	l year +	92.0	87.1
Time with Squad:	0-3 months	33.6	37.9
- Into Tital Oquad.	4-6 months	18.6	14.8
	7-12 months	28.8	18.1
	13-18 months	11.3	11.3
	19-24 months	5.3	8.1
	2 years +	2.5	9.8

Adaptation

The primary concern raised by soldiers during the first team's visit in September was their uncertainty about the duration of the deployment. In the November-December visit, the transition from an open-ended deployment to one with an end point became the critical factor affecting soldier adaptation and morale. Also during this time, a number of additional influences on soldier adjustment converged, some internal to the context of the theater, and others due to events happening outside the theater that affected its development. For example, several critical internal factors included: the rapid maturation of the logistical infrastructure required to meet the demands of an expanding force; the increase, as part of this maturation, of life support and stress-mediating structures (e.g., base camps, fundamental amenities, "down days," creature comforts, telephones, etc.); and the effects on many soldiers and units of extended, uninterrupted training and living together under continual conditions of physical, psychological, and social hardship.

These developments occurred within a context of external events, decisions made at higher levels outside the theater, but having significant impact on soldier adaptation. For example, critical decisions in the November-December time frame included: Secretary of Defense Cheney's announcement of the Desert Shield deployment "for the duration"; the imminent arrival in theater of VIIth Corps units from Germany; and the United Nations resolution sanctioning the use of force against Iraq. For soldiers, the rapid development of the theater, coupled with the evolution of external decisions, translated into a focused anticipation of combat. While this reality

was stressful, soldiers also perceived combat as an event that would mark the end point of the deployment and their return home.

Although the possibility of combat became increasingly certain during this time, soldiers still wanted to know how long they would be deployed if there were no war. There was general agreement among soldiers interviewed that if no war or rotation plan for units occurred by March, six months after initial deployment, then there would be massive morale problems.

Morale

Morale is used here to refer to the soldiers' overall perception of and commitment to mission and unit, sense of well being, and general acceptance of the conditions of deployment and potential combat. It does not refer to fluctuating feelings, moods, or responses to momentary problems (Manning, 1994).

In most units, morale appeared to have improved since the first research team's assessment in September, 1990. In September, morale in active component combat and combat support units was generally high. In November, it was higher. Soldiers in almost all companies interviewed typically rated their morale at about 7 to 8 on a 0-10 point scale. Many pointed out that it was as high or higher than it had been at home station. These soldiers attributed their high morale to their belief that there was now an end to the mission, and that when they got the job done they would go home. The statement that they would be in Saudi Arabia "for the duration," while an initial blow, ended extensive and sometimes damaging speculation and rumors about rotation dates

home. This policy decision also reinforced a sense of purpose and made the deployment appear closed rather than open-ended.

As many of the initial differences between units and organizations in theater regarding the quality of life support, morale, welfare, and recreation amenities decreased, so did feelings of resentment and relative deprivation. Soldiers reported that the major contributors to their personal morale were mail, showers, tents, rest areas, hot food, cold drinks, being able to live as squads, crews or platoons in self-improved areas, entertainment, and some free time. Visits to the resort area at Half Moon Bay, home visits to civilian families who worked in Saudi Arabia for one of the major oil companies, and the special celebration at Thanksgiving all boosted morale. Wherever telephones were widely available, soldiers and leaders reported them a major morale contributor. The opportunity to call home sometimes resulted in rapid solutions of family problems and maintained critical emotional linkages and feelings of well being between the soldier and his family. For most soldiers, the initial burst of telephone calls home was followed by self-regulation in rate of calling. There were some occasions where phone calls precipitated a crisis for the soldier, bringing problems from the home front into the soldier's immediate world. These situations placed an unexpected challenge on unit leaders.

Soldiers viewed all contributions to morale as symbols of caring and respect for their needs on the part of their leaders. Even small changes and improvements assumed great symbolic value. During this time, almost all standard indirect measures of morale, such as Uniformed Code of Military Justice (UCMJ) actions, sick call visits, accidents, and intra-group conflicts, were extremely low in these combat arms units.

Many soldiers were concerned that the deployment would hurt their re-enlistment options and futures in the Army since they could not complete training or education requirements in the desert for the points necessary to be competitive for promotion. Many leaders were worried and angry about the possibility of downsizing and a mandatory reduction in force. A number of soldiers spontaneously brought up the fear that they would go to war, survive, and then "get a pink slip as I come off the plane at home." This issue had great potential to injure morale.

In November, relative deprivation had improved, but the perception that there were "double" standards continued to erode soldier mood at a different level. Letters and news articles from home implied that the entire theater shared the living conditions, food, and amenities of rear echelons or some Navy and Air Force units. Forward deployed soldiers knew and appreciated the fact that for operational reasons, they lived differently from those soldiers in urban area support units and personnel at air and naval bases in the Theater. However, these soldiers wanted people at home to know what they had achieved while living under tough conditions. Their perception of a "double" standard was also reflected in anger over reports of officers being sent home for school or to change command. Table 2 summarizes some of the most common (more than 15% of the sample) deployment stress ratings by soldiers and their leaders in the November-December, 1990 assessment period.

Table 2. Desert Shield * Deployment Stresses

tems Rated as Causing "Quite a bit" to "Extreme"	Stress %
Living Conditions:	and and assisted
Flies	56.6
Eating MRE's most of the time	39.5
Maintaining equipment in desert	23.0
Crowding at base camp	20.9
Operating in the desert heat	20.7
Not getting enough sleep	20.5
Operating in the desert sand	17.0
Unit Factors:	
Not having private time	45.3
Having leaders around too much	36.6
Lack of adequate morale	33.3
Unusaully long duty hours	27.1
Having to do extra details	26.9
Fights in squad or platoon	21.1
Deprivation:	
Not having opposite sex around	73.6
Not being able to act like Americans	41.9
Other units having things better	38.7
Lack of alcoholic beverages	35.9
Behavior restrictions	24.6
Family Separation:	
Lack of contact with family	48.4
Problems in family	33.2
Lack of understanding about deployment	28.2
Information on TV/radio about ODS	21.5
What family members write about ODS	17.9
Anticipation of combat:	
Being in MOPP for a long time	28.5
Eating T-rations a lot	28.0
Not being able to stay in shape	25.3
Lack of confidence MOPP gear	23.4
Not being able to do job in MOPP	17.4
Downsizing:	
Talk about reduction in my pay garde	18.0
Talk about projected cuts	17.6

^{*}Deployment Stress Scale not included on shortened Storm Enlisted Survey

Cohesion

The primary factors in the management of deployment stress reported in soldier interviews were leader behavior and accessibility and squad and platoon cohesion and stability. The interview findings were reinforced by survey results indicating a moderate, statistically significant negative correlation between soldier ratings of deployment stress and their perceptions of horizontal and vertical cohesion in their units (Horizontal Cohesion: r=-.2178; p < .001; Vertical Cohesion: r=-.2184; p < .01). The higher the soldiers rated their unit cohesion, the lower they rated deployment stresses.

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Horizontal Cohesion: For the most part, combat arms soldiers did an extraordinary job taking care of each other at the unit level. Research team observations and soldier interview data consistently noted the high cohesion of unit members and their strong bonding to their immediate small unit leaders. Cohesion above the squad and crew level was also relatively high and improving. Cohesion seemed to increase as a result of living, working, training and solving problems together in a challenging and isolated environment. This was in spite of the obvious individual-level stress associated with these conditions. Soldiers came to know and trust each other as professionals and to respect each others technical and combat skills. They also saw each other as primary friends and sources of support. Interviews with four-man tank crews revealed the importance to them of "integrity," or keeping the members of a crew together. Those

individuals who had been together the longest prior to the deployment demonstrated exceptional cohesion.

Many soldiers interviewed by the second team reported improvements across the board in cohesion, communication, morale and combat confidence at crew and squad levels since their arrival in Saudi Arabia. But they also continued to talk about privacy needs and a chance to get away from the ever present leadership demands. In interviews, soldiers described a series of informal rules and strategies for ensuring a minimum of interpersonal conflict under extremely crowded and stressful living conditions. Confrontations were turned into jokes and dealt with as funny rather than antagonistic, and soldiers reported a greater toleration of differences in themselves and in their groups. Aggression was often channeled into athletics or into wrestling matches. As one soldier said: "You do not want to fight with the man who will cover your back."

Cohesion continued to appear highest in those groups that had been stable and together for the longest periods of time. The members of an Armor platoon, in which almost all soldiers had served for at least a year, told the second research team:

Our platoon is the backbone of the company. We're confident in our leaders and in ourselves. We're friends and believe in and trust each other. We take care of each other and take it seriously. We're completely cross section trained, any of us can do any job in the platoon. We treat each other as family, we're like brothers, we share problems, we joke. And like a brother, when I get angry at him we wrestle in the sand pit.

Figures 1 and 2 illustrate the horizontal and vertical cohesion ratings by company collected in November-December, 1990, and Figures 3 and 4 summarize company ratings for horizontal

and vertical cohesion collected in January, 1991, prior to the start of the Air War. Both horizontal and vertical cohesion measured in a different set of units and at a different time during Desert Shield were on average markedly higher than the levels reported for equivalent units in the New Manning System Cohort Study (Marlowe, et.al. 1985; 1986a; 1986b; 1986c; 1987). As stated earlier, the scale used to measure cohesion ranges from zero to 100. The highest scores recorded over a ten-year period assessing some 50,000 soldiers in approximately 240 units were in the low to mid 70s. These scores were achieved only in Ranger companies and in several outstanding Cohort units.

Additional evidence for the high levels of cohesion in the Desert Shield units comes from a comparison of individual items on the survey cohesion scales. The status of Desert Shield units was much closer to the data collected from six battalions (Ranger, Airborne and Cohort) that participated in Operation Just Cause (Department of Military Psychiatry, WRAIR, 1990) than to conventional units in CONUS and USAREUR in 1987 (Figure 5). Interview data collected in Saudi Arabia during Desert Shield also indicated that soldiers attributed their high cohesion to the long period spent together living and training in the desert. Combat Arms soldiers spoke of each other as "family" and described how they had become like brothers. Frictions in the pre-combat period were described as arguments "between brothers." Soldiers and leaders spoke eloquently of how critical their bonding and knowledge of each other were to unit effectiveness,

Figure 1. Horizontal Cohesion: Desert Shield

(Nov-Dec, 1990)

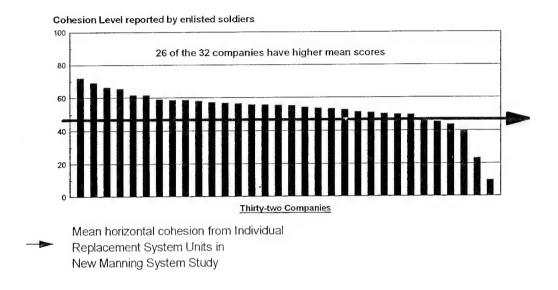
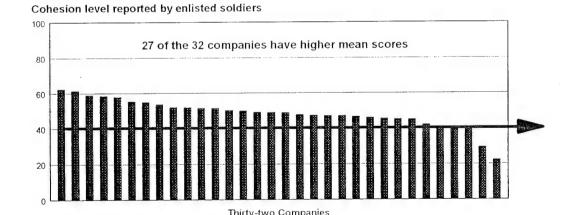


Figure 2. Vertical Cohesion: Desert Shield

(Nov-Dec, 1990)



Mean vertical cohesion from Individual Replacement System Units in New Manning System Study

Figure 3. Horizontal Cohesion: Desert Storm

(Jan, 1991)

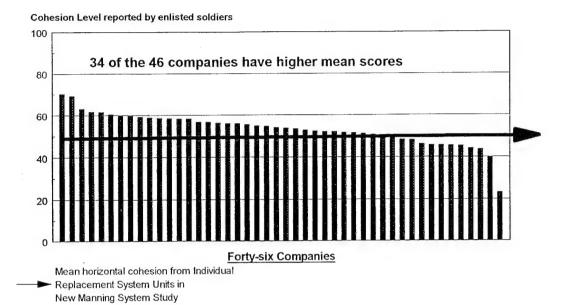
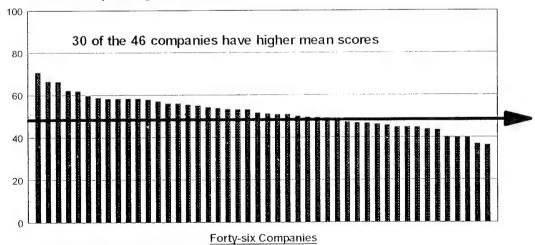


Figure 4. Vertical Cohesion: Desert Storm

(Jan, 1991)

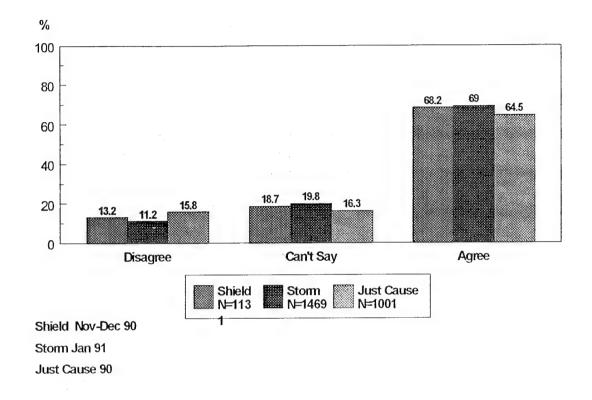
Cohesion Level reported by enlisted soldiers



Mean vertical cohesion from Individual Replacement System Units in New Manning System Study

Figure 5. Response to:

"If we went to war tomorrow, I would feel good about going with my squad."



Vertical Cohesion: This was of great importance in soldier stress management. The more positively the soldier perceived his leaders, the more helpful they were viewed as resources to manage stress. Interviews indicated that providing information, personal interest, and shared burdens were critical leader behaviors facilitating the development of vertical cohesion.

Soldiers also reported bonding most strongly to those leaders who participated and led by doing, shared available news and intelligence with them regularly, and treated them with the

moderate informality, intimacy and care seen as appropriate in a potentially dangerous pre-combat situation. Common determinants of cohesion that emerged from interview and survey data were specific leader behaviors and corresponding soldier perceptions of leaders' concern for their well-being. For example, leaders who provided information, showed personal interest in the welfare of their soldiers, and shared deprivations with them, appeared to obtain higher levels of cohesion in their units. These sets of behaviors interacted; for example, one way for leaders to show their interest in the welfare of soldiers was to ensure that information - including news as well as operational plans - was passed to soldiers. Soldiers, when asked what made them believe their leaders cared for them, often cited the fact that their chain of command did what it could to keep them informed. Similarly, leaders who shared burdens with soldiers, such as austere living conditions or physically-demanding tasks, were seen as interested in the welfare of their soldiers. Actions taken by leaders to provide basic amenities for soldiers acquired an important symbolic value. In the eyes of the soldiers, facilities such as showers or better tents represented the willingness of their leaders to support them.

Problems in bonding noted during the second team's visit were most marked in units that received large numbers of mid level Non-commissioned Officers (NCOs) as fillers and attachments immediately prior to deployment, or as replacements in theater. In units that experienced such turnover and turbulence, soldiers invariably said that they wanted a tough, allout training exercise to test new and untried unit leaders. Soldiers' perceptions of the effectiveness of their leaders correlated strongly with unit scores for both horizontial and vertical cohesion (Figures 6 and 7). In general, company level NCOs tended to be somewhat more

positively perceived than company level officers. However, interviews also indicated that at platoon level, when the NCO was devalued, the platoon leader became the integrating focus of the organization. If both were devalued the platoon tended to have low combat confidence, poor morale, and low cohesion.

An issue that surfaced in the interview data concerned reports that those soldiers showing the greatest strain, and those most likely to get into arguments, were the mid-level sergeants. Whether this resulted from tension associated with their combat leadership responsibilities, or was caused by their inability to escape, even for a moment, from their duties and their soldiers, or by fears about their own personal futures, was unclear. In all probability, each of these reasons played a role.

By November, 1990, most soldiers no longer perceived the deployment as a field training exercise. Life in Saudi Arabia became normal routine, "the regular daily way we live." Soldiers referred to bases and field sites as "home." They often used the word "here" to cover both Saudi

Figure 6. Correlation of Perceived Leader

Effectiveness with Horizontal Cohesion

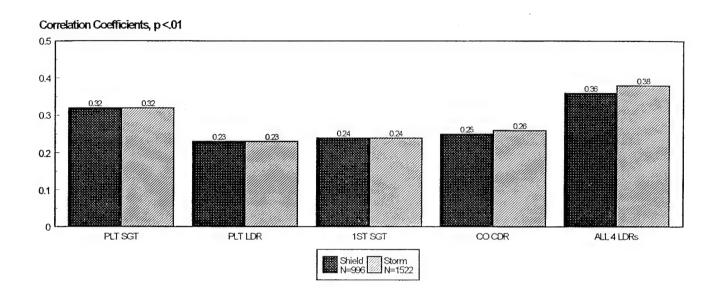
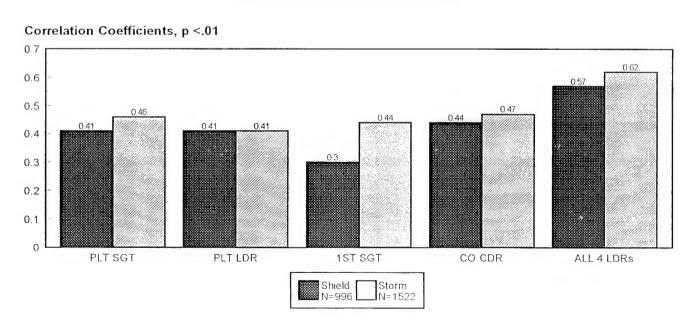


Figure 7. Correlation of Perceived Leader

Effectiveness with Vertical Cohesion



Arabia and their home post in the United States. With the transition in focus to anticipation of combat, field exercises away from the large fixed camp areas became more valued. The unit field sites were viewed as embodying more freedom and encouraging positive relationships between soldiers and leaders. In addition, while at their field sites, many soldiers had ingeniously solved a number of living problems, as well as a number of equipment and field maintenance problems. While many soldiers expressed the hope that these solutions were being captured and transferred to others in theater and to incoming units, some felt that if it was not their idea, then the solution had no value.

Based upon pre-combat interviews and later supported by post-combat data (Department of Military Psychiatry, Walter Reed Army Institute of Research, 1993), soldiers and their leaders agreed that their capacity to do their tasks was markedly enhanced by the long period of cohesion building and collective training in the desert. Many said "it was like a six month NTC" (training at the National Training Center at Fort Irwin, CA). In post-combat debriefings soldiers noted that both casualty levels and confusion would have been much higher without the long build up period. In a real sense, the stability and corresponding emotional bonds of a "cohort" Army developed during the pre-combat period. Both soldiers and leaders saw this time as creating a powerful intimacy, a sense of interdependence, increased responsiveness to each other, and mutual respect. While a few soldiers felt that the closeness between leaders and led was detrimental, most saw it as a source of strength and discipline.

Family and Personal Relationships

During the November-December time frame, many of the problems surfacing in this deployed force seemed to be family related. Chaplains, as well as soldiers, believed those most at risk were young, recently married soldiers either with young pregnant wives or those married just before the deployment, and soldiers in relationships that were troubled prior to deployment. Rumors of wide-spread marital breakup and perceptions of increased incidence of "Dear John" letters had negative effects on morale, with concerns persisting even when the rumors proved to be untrue. Some soldiers were tormented by rumors reportedly spread by new arrivals from the same CONUS installation who described increasing crime in their former communities, and caused apprehension about the safety and security of their homes and families. In a number of cases, soldiers worried about their children's or younger siblings' reactions to the threat of war and loss. Long-term child care arrangements for deployed single parents or dual career couples, and custody issues for divorces parents, while relatively infrequent, were extremely distressing problems. Soldier ratings of survey items regarding family related concerns, beliefs about family problems at home, and their confidence in family's safety and availability of support are summarized in Table 3. These results indicate a substantial number of soldiers who reported moderate to major family problems prior to deployment.

Table 3. Soldiers Reporting Family Problems*

Survey Item:	SHIELD N= 530 (% Yes)	STORM N= 709 (% Yes)
Moderate / Major family problems prior to deployment	25.4	24.3
Family problems require to be at home	20.6	14.4
Requested to be home because of family problems	6.7	3.6

^{*}Note: Married respondents only

A tightly bonded four man tank crew discussed the potential implications of such concerns and how to cope with them: People (e.g., crew) depend on you. We may have problems, but when its time to do our job ... I may have some tears in my eyes before I go to sleep, but that's alright. I have the right to do that. Leave home problems at home, prepare yourself for what is coming. One man in a crew can get a whole crew killed, that's a `no go.' If we go to war, leave family problems behind you. Talk to other crew members about it. If you are the type to dwell on problems, you're a risk to the people over here. We have a couple of loners in the platoon. Sitting by themselves in the dark. Other crew members keep an eye out and try to interact ... We're not complainers. We're not suffering here. We're just anxious to do what we have to do. We live better than any other Army in the field.

Some soldiers were concerned about leaving families at a new post just prior to deployment, with little knowledge of the area or community. Soldiers most comfortable with arrangements at home either had spouses with established support systems, or spouses who returned to their own families of origin.

On the whole, contact with spouses by mail or telephone remained a primary source of support and was critical for morale for the overwhelming majority of married soldiers. Letters provided tangible contact with home, and the telephone provided the opportunity for more

intimate contact and reassurance, as well as in some circumstances immediate problem solution.

The disadvantage was that slow mail and lack of access to telephones were made all the more frustrating.

Confidence in Family Support Groups: Those family support groups established back at the home posts, received conflicting reviews from soldiers across units. Some soldiers seemed to know little about the group or their spouses' participation in it, whereas others perceived the family support group as working well and could explain their spouses' role and responsibilities. On the other hand, a number of unit leaders described their spouses as severely stressed by the demands, responsibilities and continuous work in sustaining family support group efforts.

Soldier perception of and confidence in Army orientation to families and family support were potential problem areas. While there were divisional (and in some cases brigade and even battalion) differences in attitudes, there was also a significant level of negative feeling across units about capacity to respond to family needs. Table 4 summarizes soldiers' ratings of confidence in unit based family support efforts. Soldier confidence in rear detachments was lowest, but confidence in Family Support Groups and in the Army's ability to care for families in the event of death or wounding of the active duty member were also on the low side with 44% of the Desert

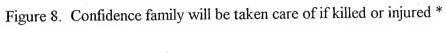
Table 4. Soldiers' Confidence in Unit Family Support.*

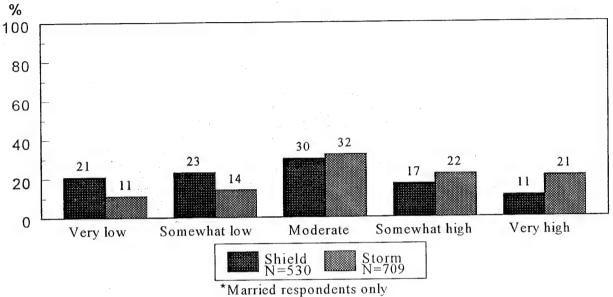
Survey Items	SHIELD N= 530	STORM N= 709
Family Support Groups woould help if family needed:	%	%
somewhat low or very low confidence	44	32
moderate confidence	37	41
somewhat high or very high confidence	19	27
Effectiveness of Unit Family Support Group	%	%
somewhat low or very low confidence	43	36
moderate condifence	40	42
somewhat high or very high confidence	17	22
Rear detachment would help if family needed:	%	%
somewhat low or very low confidence	56	44
moderate confidence	32	36
somewhat high or very high confidence	12	20

^{*} Note: Married respondents only

Shield and 25% of the Desert Storm samples expressing somewhat low or very low confidence that their family would be taken care of if they were killed or wounded (Figure 8).

In part, soldier interviews indicated that lack of information about family programs played a role in low confidence ratings. However, their perceptions of family support and supportive institutions also reflected the cohesiveness of the units surveyed. The higher a soldier's assessment of unit cohesion, the more positively a soldier viewed support institutions. Soldiers in





the most cohesive units reported more confidence that the family support systems at their home posts would care for their families if needed. In both survey samples the correlation between soldiers' vertical and horizontal cohesion scores and their responses to each of three survey questions rating soldier confidence in different family support functions, was notable (Figures 9 and 10).

Figure 9. Correlation of Family Support Confidence with Horizontal Cohesion*

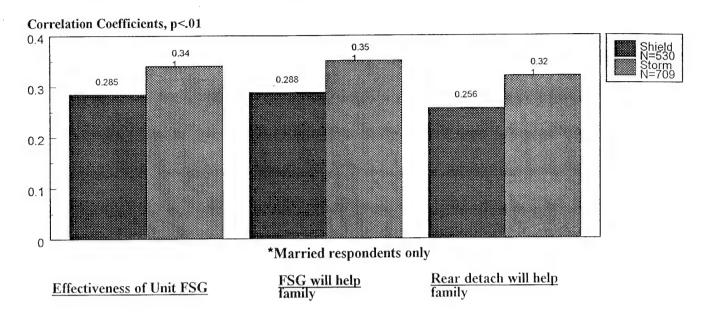
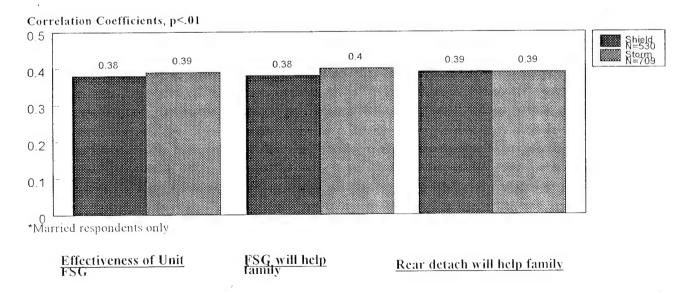


Figure 10. Correlation of Family Support Confidence with Vertical Cohesion*



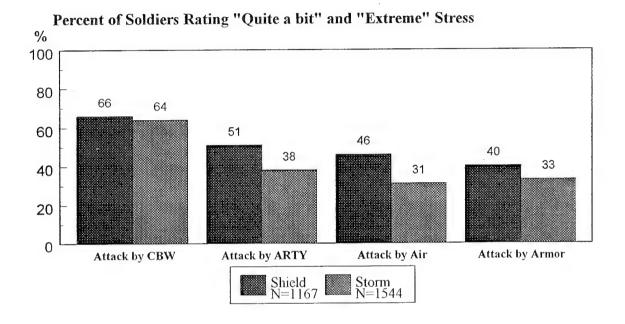
Leader vs Soldier Perceptions of Family Issues

There were differences between leader (E7-05) and soldier (E1-E6) perceptions of Army orientation to families. Leaders tended to be much more satisfied with and more favorable in their assessment of the Army's concern and orientation towards families than were their soldiers. Leader families also seemed generally more skilled in adapting to and coping with the stresses that often come with Army life, possibly receiving more positive responses from unit and post leadership and institutions. Overall, leaders reported more positive views on surveys than did their soldiers, perhaps believing it was "expected of them." Critically, however, these differences in perception may encourage leaders to assume that their own satisfaction with the Army's response to families is fully shared by their soldiers. This can have negative effects on vertical cohesion and the soldiers' view of leaders' concern for and commitment to families.

Anticipation of Combat

Soldiers anticipated their future commitment to combat. The items on the Combat Anticipation Stress Rating Scale were divided into two categories: those concerning enemy assets (e.g., weapons, equipment, systems); and those relating to casualties and combat losses (e.g., buddy or leader wounded or killed in action). For the category of enemy assets, soldiers were concerned, in rank order, with the possibility of chemical/biological attack, followed by artillery, air and armor (Figure 11).

Figure 11. Anticipated Enemy Assets



For the category of anticipated combat losses, soldiers were most concerned by the possibility of a buddy being wounded or killed in action, followed by self-being wounded or killed, and losing a leader. Rated lowest of all as a source of stress was the anticipation of wounding or killing the enemy (Figure 12). In contrast to these pre-combat estimates of stress, data collected following Operation Just Cause (Department of Military Psychiatry, WRAIR, 1990) and the follow-up of units after Operation Desert Storm (Department of Military

Psychiatry, WRAIR, 1993) indicated that in only two cases was anticipated stress lower than post-combat findings: losing a leader, and having to kill the enemy.

Percent of Soldiers Rating "Quite a bit" and "Extreme" Stress % 100 80 60 51 45 45 40 23 21 20 0 Having buddy W/KIA Being W/KIA Having leader W/KIA Having to W/K Enemy Shield Storm N=1167 N=1544

Figure 12. Anticipated Combat Losses

Of particular note were soldiers' ratings on the anticipated stress of receiving adequate medical care if wounded in action. For both samples, almost two-thirds of the soldiers' - 67% in Shield and 62% in Storm - rated this concern as causing them "moderate" to "extreme" stress (Figure 13).

Pre-Combat Preparation

In late November, 1990, units that appeared to have the highest confidence also seemed to be those units with the most extensive knowledge about Iraqi field combat capacity and techniques, and corresponding knowledge about the best ways to deal with them. An exaggerated image of Iraqi strength operated against combat confidence, whereas casually dismissing Iraqi military potential led to complacency. In November, these combat arms soldiers appeared to be pacing themselves. They reported that they did not want "to peak too soon," and some expressed fears about growing stale with over-training, or losing their edge as a result of constant "over-alertness." As one soldier put it: "My edge requires time to be laid back before I go all out."

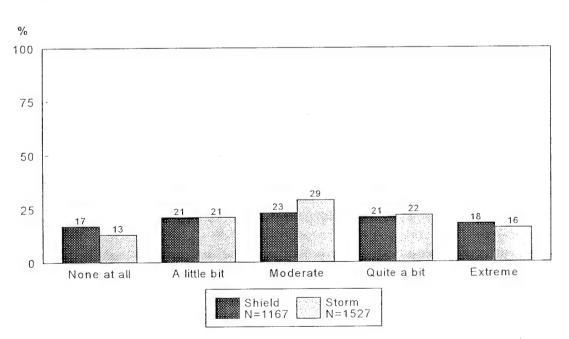


Figure 13. Anticipated Stress about Receiving Adequate Medical Care if Wounded

A few leaders seemed to have a counter-productive effect in their attempts to prepare their soldiers psychologically for combat. For example, some soldiers were deeply shaken by leaders who talked to them about the large number of soldiers who would be killed in combat, rather than emphasizing that while there would be casualties, leaders would try to bring everyone home alive. Many soldiers interviewed in November and December were negatively affected by projected casualty estimates in the media. They did not understand the nature of such projections, and believed that the 20-50 thousand casualty figures used in the press referred to soldiers killed in action, rather than to battle injuries of any sort.

One Battalion Commander's method for preparing his soldiers is worth mentioning since it was perceived by soldiers interviewed by the second team as extremely helpful. Circulating around the areas where his soldiers lived and worked, he was constantly visible. He would tell them:

We have a great plan and excellent chain of command ... I emphasized we were so far ahead of the Iraqis in terms of equipment and training
They trusted me. I was trying to encourage healthy self-confidence.
Healthy respect. Relationships are based on mutual respect ... I would tell them: You are American heroes. You're the point of the spear. Each of us is counting on one another. Interdependence. You'll write history, as warriors. Don't do anything to diminish what you have already accomplished. I knew they were ready ... I kept card files on each soldier and their families for details about their lives. It is astonishingly important to them. Showing them they would not be put at undue risk. It shows: This leader really cares about me.

The Beginning of Desert Storm

In interviews conducted both pre and post Operation Desert Storm, soldiers reported that in the two months prior to the beginning of the Air War in January, their strongest feeling was "that the road home led through Kuwait and Iraq." Morale was described as fluctuating up and down throughout this period, and following the first week of the Air War, each perceived delay in movement forward lowered morale, each anticipation of "starting the job" raised it. Most senior leaders considered down time and rest periods important to the maintenance of morale and the soldiers' "edge." Post combat interviews revealed that these short-term fluctuations in morale had no long-term or erosive effects. Morale re-ascended to an extremely high level as soon as there was firm knowledge that the Ground War was to begin (Department of Military Psychiatry, Walter Reed Army Institute of Research, 1993).

As they moved forward, soldiers recalled their initial orientation to battle as an expectable combination of excitement, apprehension, fear and anxiety. Most soldiers interviewed described the beginning of the Ground War as the greatest stress reliever of the months of deployment. Confidence in training was extremely high. The major underlying fear during the initial assault appeared to be the threat of chemical and biological warfare. This was compounded for many by concerns about the effective life of MOPP gear and conflicting beliefs about anti-chemical and biological agents (drugs and vaccines). Some soldiers worried as much or more about the potential harmful effects of these protective measures as they did about the enemy's chemical and biological weapons. Clearly, training in this aspect of combat preparations was inadequate.

Summary

Findings from the Operation Desert Shield phase of the Gulf War research conducted in November-December, 1990, included a theater context that had matured considerably since the initial deployment in September. Table 5 summarize some of these changes: Theater infrastructures continued to develop in November, but much had been accomplished in a very short period of time. With the upcoming arrival of VIIth Corps, combat and support units already established were eager to share what they had learned. Despite the ever present cultural constraints and severe austerity of their physical environment, most soldiers communicated a sense of pride in the creative solutions they had discovered. As the theater developed and amenities improved, even small changes assumed symbolic significance. Improvements made by soldiers at the unit level transformed field sites in the desert into "home," and externally directed improvements demonstrated leader and chain of command caring and concern.

Most critical for soldiers during this time period was the fact that the stress of uncertainty about the duration of the deployment and the ambiguity surrounding their eventual mission were resolved. Focusing events and times provided closure. Secretary of Defense Richard Cheney's announcement of "for the duration," and the January 15th deadline given to Iraq by the United Nations clarified soldiers' uncertainty about their role and purpose. When they became convinced that "the road home led through Kuwait," their energy became more and more focused on their units and on their training. As unit members lived and worked together under conditions of hardship, their cohesion, confidence and morale improved, providing the backdrop for their

adaptation. Most combat arms soldiers deployed to the Persian Gulf as members of relatively intact units. They left their families within a structure of community support represented by unit level family support groups and the rear detachment command, a cadre of unit members, who would be the interface between the deployed soldiers and their families at home. Although some spouses returned to their families of origin, most remained at the military installations. These communities provided a source of social support and units provided primary sources of information that would sustain them in the months to come as the Gulf War deployment moved into the combat phase of Operation Desert Storm.

Adaptation:

- * Ambiguity about deployment ended
- * Emerging sence of purpose
- * Developing infrastructure of theater and improving amenities

Morale:

- * Feelings of relative deprivation decreased
- * Improved communications with home
- * Symbols of leader caring

Cohesion:

- * Unit member bonding very high
- * Emerging rules and strategies to modrate conflict
- * Bases and camps become home

Family Relationships:

- * Importance of mail and telephone contact
- * Worries about family safety
- * Family transitions prior to deployment a concern

Concerns/Potential Problems:

- * Unrealistic views of Iraqi military potential/either positive or negative
- * Concerns about 'losing their edge over time"
- * Confusion about casuatly rates
- * Rationale for the deployment and combat
- * Concerns about the future careers in the Army

CHAPTER 3

CONCLUSIONS

Cohesion and Leader Behaviors

The Desert Shield deployment phase of the Gulf War research program established the critical importance of unit cohesion in managing deployment stress - both horizontal cohesion at the squad/crew level and vertical cohesion between soldiers and their leaders. Critical leader behaviors facilitating the development of vertical cohesion included: providing information, personal interest by leaders, and shared deprivations. Vertical and horizontal cohesion were also positively related to soldiers' ratings of their leaders' effectiveness.

Deployment Stresses

Adjusting to the deployment may have been more stressful for most soldiers than the actual combat, since those individuals involved in actual combat were relatively few and even for those individuals, only a few actually engaged the enemy with live fire. The Gulf War included the stresses of readying units and equipment for a rapid deployment; leaving families suddenly and unexpectedly, sometimes with little personal time to prepare and say good-bye; a prolonged period of adapting to a new environment initially characterized by uncertain tour length, ambiguous demands, lack of communication with home, isolated and austere living conditions; and the anticipation of combat. Added to these significant stresses were career concerns about

their futures in the Army given the plans for downsizing, which for many soldiers became a reality after they returned home.

Family Separation

Separation from family received some of the highest stress ratings from deployed soldiers. Concerns about families back home, due to either real or imagined problems was an issue throughout the deployment. Letters from home and telephone contact with families were critical events helping soldiers cope with stress, yet also produced stress. However, initial theater concerns about telephone access leading to a serious increase in problems for soldiers were unfounded. Overall, telephones had a positive effect on morale and contact with families often resulted in quick resolution of problems and maintained critical emotional linkages.

Ongoing Gulf War Research

This report has summarized one phase of an extensive research program being conducted by the Department of Military Psychiatry of the Walter Reed Army Institute of Research, assessing the consequences of the Gulf War for service members (Martin, 1992; Martin et al., 1992; Stuart & Halverson, 1995). In addition to data collected from soldiers during and after the Gulf War, this research extends to military families with interviews and survey questionnaires designed to examine stresses, life events and coping during the deployment, and readjustment issues after soldiers returned home (Rosen et al., 1993a, 1993b, 1994). A study of children of deployed parents, (Teitelbaum, 1991; Martin et al., 1993) and an evaluation of community and

installation-based family support services and programs represent other projects within the program (Teitelbaum, 1991).

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Appendix A

Operation Desert Shield Interview Guide

Appendix_WRAIR Department of Military Psychiatry Interview Guidelines for Operation Desert Shield

General Approach:

- 1. Conduct interviews in the soldiers' natural settings i.e., in their tents, by their foxholes, in the shade of their vehicles, etc. Avoid having soldiers brought to a special location for interviews.
- 2. Start with the unit commander and, as much as the situation permits, schedule your interviews in descending sequence down the chain of command, i.e., senior NCO's before junior NCO's, before enlisted soldiers.
- 3. Encourage a casual atmosphere. Have them seated comfortably, and in positions where you can make eye-contact with them. Drinking water, eating, etc. are allowed and encouraged.
- 4. Explain the purpose of the interview, which is to examine soldier adaptation in Operation Desert Shield. Point out that we are neither inspectors nor evaluators. Rather, we are here to find out what is going on, and to use this information to help policy makers. Emphasize that these interviews are confidential and that no unit or individual will be identified, and you want them to tell you what they really think (as you convey this, do not set a negative tone by implying that you are here to find problems or engage in Army bashing).
- 5. Explain that you will be taking notes, but that this in no way compromises your promise of anonymity for them.
- 6. Go around the group and ask the solider to tell you his/her name, duty position, and how long they have been with the unit. Ask whether they are married or single, and whether they have children. This is to establish rapport and to help you focus your questions you do not need notes on this point.

7. Use open-ended questions to get the soldiers talking. Although we have specific topics to look for, it is better to let them come out in the natural course of conversation than to try to follow a set pattern. There may issues we have not yet encountered, and we will learn of them only if we let soldiers say what is on their minds, rather than molding their responses.

Topics to Cover:

- 1. Start by finding out how long they have been in SWA, how they were notified of impending deployment, and what they did (both as individuals and as a unit) to prepare. Look for adequacy of time to get personal affairs in order and to prepare families, and for unresolved issues they brought to SWA. Pursue how the latter have affected them in SWA and whether command has been helpful in resolving them.
- 2. Ask how they felt about deployment, and how spouses, children, girl/boyfriends felts, and what was done to ease apprehension.
- 3. Ask what actual deployment was like, and what they did on arrival.

NOTE: For units that we have interviewed previously, the above topics can be treated more briefly.

- 4. The above should lead to a description of what they have been doing from their arrival until the present.
- 5. Much of what we want to know will come out naturally during the course of this chronological description, and how it comes out will tell you what the salient issues are from the perspective of the soldiers. Some specific questions you should ask if they do not come out spontaneously:

- 1. What information are you getting about world events and your unit's mission? Probe specifically for the <u>Stars and Stripes</u>, other newspapers, command publications, AFN, BBC. Do your unit leaders (Commanders and NCO's) talk with you about what is going on in the world and what your unit is doing? (Look for both information put out in formation and for informal conversation).
- 2. Do you communicate with friends/family in the U. S.? Mail? Phones? If your family has a problem back home, will the Army give them the help they need? Will you be able to contact them?
- 3. Are your leaders competent? Do you trust them? (Use this as a basis of a general discussion of vertical cohesion with the unit. You will have to look at each level of officer and NCO leadership).
- 4. Are the people in this unit close to each other? Back in CONUS, did you do things together off duty? What sorts of things? What has coming to Saudi Arabia done to the way you get along? (Ask about both positive and negative changes).
- 5. What helps morale? What does your unit need to create/sustain high morale? (You will probably know this before the point at which you ask, but putting it as a direct question will yield some further insights). Do not stop with a one word answer (high, low, medium) that describes the overall state of morale as they see it "morale" is shorthand for a complex of different factors, many of which vary through the course of the day.

- 6. Do you get private/personal time? What do you do for recreation? Describe your recent training activities. What training is planned for the near future?
- 7. What do you think will happen in the months ahead? (Use as an introduction for discussion of anticipation of combat: Their concerns; confidence in selves, leaders, unit; what helps them cope).
- 8. What would you want to tell Senior Army leaders? (This makes a good closing question).

Appendix B

Operation Desert Shield Enlisted Survey

OPERATION DESERT SHIELD

ENT\DENO

Survey Approval Authority: US Army Personnel Integration Command Survey Control Number: ANTC - AO - 91 - 12A

PLEASE USE THE PENCIL WE PROVIDED. FILL IN THE BUBBLE WHICH CORRESPONDS TO YOUR ANSWER. PLEASE BE SURE TO FILL IN THE MIDDLE OF THE BUBBLE LIKE THE EXAMPLE BELOW. YOU DO NOT NEED TO FILL IN THE WHOLE BUBBLE!

	PROPER MARK		
	IMPROPER MARKS	(P)	\ominus
LAST NAME: (Please Print)	Please write the last four digits of your social security number and fill in the corresponding	If applicable, plea battalion and regi boxes and fill in t	ment number in the
TODAY'S DATE: THE COMPLETE NAME OF THE UNIT/COMPANY THAT YOU ARE IN TODAY:	bubble below.	bubble below. 1 1 2 2 3 3	
	4 5 6 6 7 8 8 9 9 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	4 4 5 5 5 6 6 7 7 7 8 8 8 9 9 0 0 0	
What is your company? A Co. D Co. B Co. E Co. C Co. HHC	How long had you been in your go 0 - 3 months 4 - 6 months 7 - 12 months	13 - 18 months 19 - 24 months More than 2 years	
Other (use the line provided). What is your <u>platoon?</u>	How long had you been in your pour pour pour pour pour pour pour p	13 - 18 months 19 - 24 months More than 2 ye	
First Mortar Second Scout Third Other (use the line provided).	How long had you been in your s 0 - 3 months 4 - 6 months 7 - 12 months	13 - 18 months 19 - 24 months More than 2 ye	•

	WIND WICKER D. V. WIND COMME TANEOD M.	(ATION ADOLET VOIL
Age on last birthday:	WE WOULD LIKE SOME INFORM What is your race/ethnic group? White Black Hispanic Other	What is your current marital status? Single Married Separated or divorced Other
$\begin{bmatrix} 2 & & & & 2 \\ 3 & & & & & 3 \\ 4 & & & & & 5 \\ 5 & & & & & 5 \\ & & & & &$	What is your rank? PVT SPC/CPL SGT PFC SSG How many children do you have? 0 1 2 3 4 or more	Are you: Male Female What is the highest level of education that you have completed? Some high school High School diploma GED GED Female Female College graduate Graduate training
THE FOLLOWING OFFE	CTIONS HAVE TO DO WITH VOLIR E	XPERIENCES IN OPERATION DESERT SHIELI
Before coming to Saudi Ar I was a member of the: (Please fill in only one but How long have you been or	Active Duty? National Guard who VC National Guard whose whose whose whose whose unit who volumed a Active Duty? National Guard who volumed who volumed a Active Army whose unit who volumed a Active Duty? National Guard who volumed who volumed a Active Army whose unit who volumed a Active Duty? What is a sum of the property of the	it was DEPLOYED for the Operation in Saudi Arabia. DLUNTEERED for the Operation in Saudi Arabia. Init was DEPLOYED for the Operation in Saudi Arabia. NTEERED for the Operation in Saudi Arabia. was DEPLOYED for the Operation in Saudi Arabia. at month did you arrive in Saudi Arabia?
3-6 months 7-9 months	10-12 months 13 or more months) Aug Oct Dec) Sep Nov Jan
	0 - 3 months 1	an half) of the members of your <u>squad/section:</u> 3 - 18 months 9 - 24 months nore than 2 years
had you served with each	I to Saudi Arabia, how long h of your leaders? (Please indicate with them <u>BEFORE</u> they assumed	MORE THAN 2 YRS.
SQUAD/SECTION SER PLATOON LEAFIRST SERGEA COMPANY CO	GEANT DER NT	

Please rate the level of morale for each of the following items.

SINCE YOU ARRIVED IN SAUDI ARABIA:

Average state of morale in your platoon?

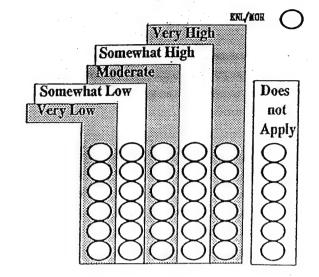
Your general personal morale?

Your morale when you get mail?

Your morale on your last rest day?

Your morale when relaxing off-duty?

Your morale on your most recent field exercise?



Think about your unit as it is today.	LOW	AVERAGE		HIGH	Does Not
HOW EFFECTIVE A LEADER IS: Your Platoon Sergeant? Your Platoon Leader? Your First Sergeant? Your Company Commander?		3	4	5	Apply

Use the scale to indicate how SATISFIED or DISSATISFIED you are with: (Please answer even if you are NOT married.)

The respect the Army shows spouses.

The concern your company has for families.

How your spouse would feel if you were to make the Army a career.

The kind of family life you can have in the Army.

The Army as a way of life.

The effectiveness of the Rear Detachment in taking care of the needs of the single soldier.

1	ERL/FAN	_0
	Very Satisfied atisfied	
Not 8	Sure	
Dissatisfied Very Dissatisfied		
		\prec
		\supset

PLEASE ANSWER THE FOLLOWING QUESTIONS ABOUT YOUR SPOUSE OR CHILDREN ONLY IF YOU ARE MARRIED OR A SINGLE PARENT.

IF YOU ARE SINGLE, PLEASE GO TO THE NEXT PAGE.

Are there currently any problems in your family that require you to be home? Have you requested to return home due to a family problem? At the time you deployed, were you or your spouse pregnant? Have you or your spouse had a baby in the past 4 months?	YES	NO S
Were there any problems in your family BEFORE you deployed? None Major		

What is your level of confidence in each of the following?

The effectiveness of your unit Family Support Group.

That your family will be taken care of if you are killed or injured.

That Family Support Groups will help your family if needed.

That the Rear Detachment will help your family if needed.

That your family is safe back home.

SOMEWHAT HIGH
MODERATE
SOMEWHAT LOW
VERY LOW

PLEASE GO ON TO THE NEXT PAGE.

PLEASE USE THE FOLLOWING SCALE TO TELL US HOW MUCH YOU AGREE OF DISAGREE WITH THE STATEMENTS BELOW:

EKIL/COH

2= DISAGREE 3= CAN'T SAY 4= AGREE 5= STRONGLY AGREE 1=STRONGLY DISAGREE Does Not AS YOUR UNIT IS TODAY: Apply There is a lot of teamwork and cooperation among soldiers in my company. Officers most always get willing and whole-hearted cooperation from soldiers in this company. NCO's most always get willing and whole-hearted cooperation from soldiers in this company. My leaders are better than the leaders of other units. People in this company feel very close to each other. I spend my time when not on duty with people in this company. My closest relationships are with the people I work with. I am impressed by the quality of leadership in this company. I would go for help with a personal problem to people in the company chain-of -command. Most of the people in this company can be trusted. My superiors make a real attempt to treat me as a person. In this company, people really look out for each other. The officers in this company would lead well in combat. The NCO's in this company would lead well in combat. Soldiers in this company have enough skills that I would trust them with my life in combat. I spend a lot of time with members of my platoon when not on duty. I can go to most people in my squad for help when I have a personal problem. Most people in my squad would lend me money in an emergency. My Platoon Sergeant talks to me personally outside normal duties. My Platoon Leader talks to me personally outside normal duties. My First Sergeant talks to me personally outside normal duties. My officers are interested in my personal welfare. The Company Commander talks to me personally outside normal duties. My NCO's are interested in my personal welfare. My officers are interested in what I think and how I feel about things. My NCO's are interested in what I think and how I feel about things. If we went to war tomorrow, I would feel good about going with my squad. If we went to war tomorrow, I would feel good about going with my platoon. My chain of command works well. I have a lot of confidence in my Company Commander's ability to lead the unit in combat. I can go to most people in my platoon for help when I have a personal problem. I am well trained to go into combat. My squad is well trained to go into combat.

KKL/COP

Most soldiers feel anxiety, stress and fear during a high threat deployment. During Operation Desert Shield, you might have used different people and things to manage these feelings. Please fill in "YES" for each item that you used during your deployment AND rate HOW HELPFUL that item was to you. If you filled in "NO" or "DOES NOT APPLY", continue to the next item.

				HOW HELPFUL WAS IT?
				Extremely
	Does Not Apply	NO I did not use this	YES I used this	Quite a bit Moderately helpful A little bit Not helpful
My unit medic Prayer or meditation Confidence in the abilities of leaders in my platoon Weapons/equipment checks	8	8	8	88888
Confidence in my own abilities. My Company Commander Remembering my training My Platoon Sergeant			8	88888
Information put out by my unit My Local Chaplain My First Sergeant Confidence in the abilities of soldiers in my platoon				8888
My Battalion Commander My Platoon Leader Thoughts of family back home Belief in the Desert Shield Mission			8	8888
Other soldiers in my platoon My SquadlSection Leader Check/Rehearse plans and orders My best buddy				
Confidence in superiority of my weapons over the enemy Confidence in superiority of my training over the enemy Anything else? (Use the space				
provided below)				

DEPLOYMENT	ENL/DI Extreme	TP1
Please indicate how much worry or stress the following caused you DURING THE PAST WEEK:	Quite a bit Moderate A little bit	DOES
No.	one at all	NOT APPLY
Operating in the desert sand.		
Having to train at night.		
Terrorist attack(s).		
Desert storms.		
Not getting enough sleep.		
Maintaining your equipment in desert operations.		
Terrorist threat.		
Operating in the desert heat.		
Eating MREs a lot of the time.		
Lack of confidence that MOPP gear will protect you.		
Talk about projected cuts in Army strength.	0000	
Severe change in temperature from day to night.		
Crowding in base camps.		
Flies.		
Not having the time or place to practice your religion.		
Lack of alcoholic beverages.		
Shift work.		
Having to do extra details.		
Not being allowed to act like Americans (dress, behavior, etc.)		$\perp > \perp$
Not having enough physical energy to perform your job.		
Being at MOPP level 3 or 4 for a long period of time.		
What you see or hear on TV or radio about Operation Desert Shield.		
Behavior restrictions in the presence of Saudis.		X
Fights or quarrels among soldiers in your squad/section or platoon.		
Unusually long duty days.		
Scorpions, snakes and spiders.		
Not being allowed to practice your religion due to the Host Nation's restraints	s. Q Q Q Q	
Not having private time.		
Lack of understanding about why you were deployed to the Middle East.		
Talk about Reduction in Force in my pay grade.	100000	
What your family members write to you about Operation Desert Shield.		
Lack of adequate morale, welfare and recreation		
equipment (books, sporting equipment, etc.)		

Please indicate how much worry or stress the following has caused you DURING THE PAST WEEK:

Lack of contact with your family back home.

Tension in working relations with the Saudis.

Tension in working relations with other allies in the region.

Illness or problems in your family back home.

People in other units having things better than you do.

Becoming dehydrated (not drinking enough water).

Not being able to accomplish your mission while wearing MOPP gear.

Having your leaders around too much.

Not having bottled water.

Not having companionship of the opposite sex.

Eating T- rations a lot of the time.

Not being able to stay in shape.

Talk about projected QMP cut in personnel.

Anything else? (Use the line provided below).

Please indicate how much worry or stress the following events might cause you **SHOULD COMBAT OCCUR**:

Having a buddy wounded or killed in action.

Attack by enemy aircraft.

Reliability of your personal weapon in the desert.

Being wounded or killed in action yourself.

Having a leader in your company wounded or killed in action.

Ability of U.S. Air Force to support you during combat.

Having to kill or wound the enemy.

Ability of U.S. Army helicopters to operate during combat.

Attack by enemy tanks.

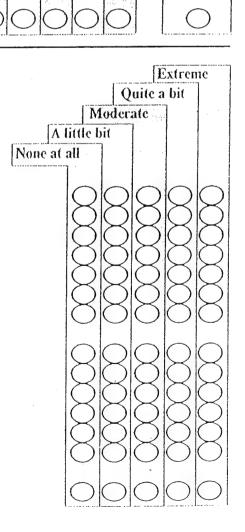
Receiving adequate medical care if you are wounded.

Attack by enemy artillery.

Capability of U.S. tanks and Bradleys to operate in the desert.

Chemical or biological attack by the enemy.

Anything else? (Use the line provided below).



Below are two rating scales. Please rate the following items on BOTH scales.

П	EN	15
* *		X.U

SCALE 1

SCALE 2

DURING THE PAST TWO WEEKS:	HELPEI WITH	ME CO		CAUSED	MESTRE	SS:
THO HERRO.	lo	uite a bit	Does	Qu	ite a hit	Does
	Moderat	*****	not	Moderate	ly	not
	A little bit		apply:	A little bit		apply
	'			1		
Letters from home						
Rumors		$\supset \supset $				
Information from my command		$\supset \bigcap $			$\bigcirc \bigcirc$	
Family problems		\sim			$\bigcirc \bigcirc \bigcirc$	
Heat and climate		\mathcal{L}			\bigcirc	
Entertainment we create ourselves		$\supset \supset $				
Chain of command		\bigcirc				
Other soldiers in my platoon or squad		$\mathcal{O}(\mathcal{O})$	$\bigcirc \parallel$		$\bigcirc \bigcirc$	
Improvements in living conditions		O(0)				
Sports					$\bigcirc \bigcirc \bigcirc$	
Rest days					$\bigcirc\bigcirc$	
Lack of variety in the things we do			\sim			
Trips to rest areas						
Phone calls home						
Information about Iraq						
Training	Cic					
Health concerns						
Choices as to how I spend my time						
Not knowing if we will go into combat						
Length of time between field rotations						
Chaplain visits						
Our present living conditions						
Reading books						
Watching TV			1			$Q \parallel$
Cold sodas and munchies						$Q \parallel$
Where we are deployed in Saudi Arabia)(_);				
AFN radio	CX) ($Q \parallel$
Conditions of rest areas		1 3 1				
The descri	() (- M. M.	()			\mathcal{L}
Newspapers	(,) (\mathcal{L}
Sanitary conditions						\mathcal{L}
Length of tour		1)	:)			\mathbb{Q}
What I think the Iraqis might do						

Below is a list of problems and complaints that people sometimes have. Read each one carefully, and select the bubble that best describes how much DISCOMFORT that problem has caused you DURING THE PAST WEEK.

		EXTREME	
		QUITE A BIT	
•	M	ODERATE	
	. A LITT	TE BIT	
	NONE		
			W
1. Nervousness or shakiness inside.			/
2. Repeated unpleasant thoughts.			ʹ
3. Faintness or dizziness.			
4. Loss of sexual interest or pleasure.			/
5. Feeling critical of others.			
6. The idea that someone else can control your thoughts.)
			*** \ ***
7. Feeling others are to blame for most of your troubles.) ~~ \
8. Trouble remembering things.) . \
9. Feeling easily annoyed or irritated.) (
(). Pains in heart or chest.			<i>)</i>
1. Feeling afraid in open spaces.	•) ; \
2. Feeling low in energy or slowed down.			'
2. The star of an time wave life		0000	,
3. Thoughts of ending your life.		NXXXXX	
4. Feeling that most people cannot be trusted.		NNXXXX	
5. Poor appetite.	•	XXXXX	
6. Crying easily.			
7. Suddenly scared for no reason.			
8. Temper outbursts that you could not control.			
9. Feeling lonely even when you are with people.			
(0. Feeling blocked in getting things done.			İ
1. Feeling lonely.			
2. Feeling blue.			-
3. Worrying too much about things.			
4. Feeling no interest in things.			
5. Feeling featful.			
6. Your feelings being easily hurt.			
7. Feeling others do not understand you or are unsympathetic.			
8. Feeling that people are unfriendly or dislike you.			
9. Feeling inferior to others.			
0. Nausea or upset stomach.		00000	
v. Mausea vi upset sevinacii.			

Below is a list of problems and complaints that people sometimes have. Read	
each one carefully, and select the bubble that best describes how much	EXTREME
DISCOMFORT that problem has caused you DURING THE PAST WEEK.	QUITE A BIT
	MODERATE
ALI	TTLE BIT
NONE	
1 1 at 11 at about by others	
31. Feeling that you are watched or talked about by others.	
32. Trouble falling asleep.	
33. Having to check and double-check what you do.	
34. Difficulty making decisions.	
35. Feeling afraid to travel.	
36. Trouble getting your breath.	
27. Her as cold spells	
37. Hot or cold spells.38. Having to avoid certain things, places or activities because they frighten you.	
39. Your mind going blank.	
40. Numbness or tingling in parts of your body.	
41. The idea that you should be punished for your sins.	
42. Feeling hopeless about the future.	
12. I complete the second seco	
43. Trouble concentrating.	
44. Feeling weak in parts of your body.	
45. Feeling tense or keyed up.	
46. Thoughts of death or dying.	
47. Having urges to beat, injure or harm someone.	
48. Sleep that is restless or disturbed.	
49. Having urges to break or smash things.	
50. Feeling very self-conscious with others.	
51. Feeling uneasy in crowds.	
52. Never feeling close to another person.	
53. Spells of terror or panic.	
54. Getting into frequent arguments.	
55. Excline narrique when you are alone	100000
55. Feeling nervous when you are alone. 56. Others not giving you proper credit for your achievements.	
57. Feeling so restless you couldn't sit still.	
58. Feelings of worthlessness.	
59. Feeling that people will take advantage of you if you let them.	
60. Thoughts and images of frightening nature.	
61. Feelings of guilt.	
62. The idea that something is wrong with your mind.	
63. Spending less time with peers and friends.	

Appendix C Operation Desert Shield Leader Survey

OPERATION DESERT SHIELD

OFF/DEXO

Survey Approval Authority: US Army Personnel Intergration Command Survey Control Number: ANTC - AO - 91 - 12B

• 🔆	IMPROPER MARKS	④ ⊖
·		
AST NAME: (Please Print)	Please write the last four digits of your social security number and fill in the corresponding bubble below.	If applicable, please enter your battalion and regiment number in the boxes and fill in the corresponding bubble below.
DDAY'S DATE:	10000	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$
HE COMPLETE NAME OF HE UNIT/COMPANY THAT OU ARE IN TODAY:	4	4

Other (use the line provided)

	WE WOULD LIKE SOME	CINFORMATION ABOUT YOU. OFF/DEMOIS
Age on last birthday:	What is your race/ethnic grou	p? What is your current marital status?
	White	Single
	Black Other	Married Other
$1 \bigcirc \bigcirc 1$	Hispanic	Separated or divorced
2 \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		
$ 3 \times \times 3$	What is your rank?	Are you:
4 \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	SFC CPT	Male
5×5	MSG/ISG MAJ	Female
	SGM/CSM LTC	
\searrow_7	2LT COL	What is the highest level of education that
\searrow_8	XILT XWOI-	
	O.S.	Some high school College graduate
\searrow_0	How many children do you ha	
	,	more GED Graduate Degree
		Some college
) Some conege
THE FOLLOWING QUES	STIONS HAVE TO DO WITH Y	OUR EXPERIENCES IN OPERATION DESERT SHIELD
How long have you been on Less than 1 year 6 - 10 years	abia, National Guard of National Guard of National Guard of National Guard of Native Army who Other	who VOLUNTEERED for the Operation in Saudi Arabia. who VOLUNTEERED for the Operation in Saudi Arabia. whose unit was DEPLOYED for the Operation in Saudi Arabia. VOÈUNTEERED for the Operation in Saudi Arabia. se unit was DEPLOYED for the Operation in Saudi Arabia. What month did you arrive in Saudi Arabia? Aug Sep Oct Oct Jan
Please rate the level of m		Very High
SINCE YOU ARRIVED I. Average state of morale in Your general personal more Your morale when you get Your morale on your last reyour morale when relaxing	N SAUDI ARABIA: your unit? ale? mail? est day?	Somewhat High Moderate Somewhat Low Very Low O O O O O O O O O O O O O O O O O O O
Your morale on your most	recent field exercise?	

Use the scale to indicate how SATISFIED or Not Sure DISSATISFIED you are with: Dissatisfied (Please answer even if you are NOT married.) Very Dissatisfied The respect the Army shows spouses. The concern your company has for families. How your spouse would feel if you were to make the Army a career. The kind of family life you can have in the Army. The Army as a way of life. The effectiveness of the Rear Detachment in taking care of the needs of the single soldier. PLEASE ANSWER THE FOLLOWING QUESTIONS ABOUT YOUR SPOUSE OR CHILDREN ONLY IF YOU ARE MARRIED OR A SINGLE PARENT. IF YOU ARE SINGLE, PLEASE GO TO THE NEXT PAGE. Are there currently any problems in your family that require you to be home? Have you requested to return home due to a family problem? At the time you deployed, were you or your spouse pregnant? Have you or your spouse had a baby in the past 4 months? Were there any problems in your family BEFORE you deployed?) Moderate None Minor VERY HIGH SOMEWHAT HIGH MODERATE SOMEWHAT LOW VERY LOW What is your level of confidence in each of the following? The effectiveness of your unit Pamily Support Group. That your family will be taken care of if you are killed or injured. That Family Support Groups will help your family if needed. That the Rear Detachment will help your family if needed. That your family is safe back home. PLEASE GO ON TO THE NEXT PAGE.

Very Satisfied

Satisfied

OFF/COP

Most soldiers feel anxiety, stress and fear during a high threat deployment. During Operation Desert Shield, you might have used different people and things to manage these feelings. Please fill in "YES" for each item that you used during your deployment AND rate HOW HELPFUL that item was to you. If you filled in "NO" or "DOES NOT APPLY", continue to the next item.

				HOW HELPFUL WAS IT?	
	Does	NO	Extremely Quite a bit		
	Not	I did	YES I used	Moderately helpful	1000000
	Apply	not use	this	A little bit	
		duis		Not helpful	
My unit medic					
Prayer or meditation	O				
Confidence in the abilities of leaders in my unit					
Weapons/equipment checks					
Confidence in my own abilities.					
My Company Commander	181				
Remembering my training	191	121	12		
My Platoon Sergeant(s)					
Information put out by my command					
My Local Chaptain My First Sergeam			18		
Confidence in the abilities of soldiers					
in my unit					
My Battalion Commander					
My Platoon Leader(s)		S	18		
Thoughts of family back home Belief in the Desert Shield Mission			18		
Other soldiers in my platoon My SquadlSection Leader(s)			181		
Check/Rehearse plans and orders			191		
My best buddy					
Confidence in superiority of my weapons					
over the enemy Confidence in superiority of my training			191		
over the enemy					
Anything else? (Use the space					
provided below?					
					1

Lack of contact with your family back home.

Tension in working relations with the Saudis.

Tension in working relations with other allies in the region.

Illness or problems in your family back home.

People in other units having things better than you do.

Becoming dehydrated (not drinking enough water).

Not being able to accomplish your mission while wearing MOPP gear.

Having your leaders around too much.

Not having bottled water.

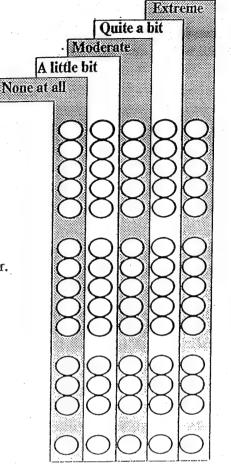
Not having companionship of the opposite sex.

Eating T- rations a lot of the time.

Not being able to stay in shape.

Talk about projected QMP cut in personnel.

Anything else? (Use the line provided below).



DOES NOT APPLY	

Please indicate how much worry or stress the following events might cause you **SHOULD COMBAT OCCUR**:

Having a buddy wounded or killed in action.

Attack by enemy aircraft.

Reliability of your personal weapon in the desert.

Being wounded or killed in action yourself.

Having a leader in your unit wounded or killed in action.

Ability of U.S. Air Force to support you during combat.

Having to kill or wound the enemy.

Ability of U.S. Army helicopters to operate during combat.

Attack by enemy tanks.

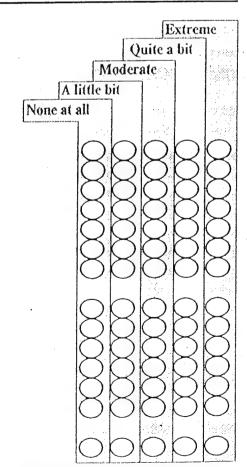
Receiving adequate medical care if you are wounded.

Attack by enemy artillery.

Capability of U.S. tanks and Bradleys to operate in the desert.

Chemical or biological attack by the enemy.

Anything else? (Use the line provided below).



OFF/HAND

Below are two rating scales. Please rate the following items on BOTH scales.

<u>ITEMS</u>

SCALE 1

SCALE 2

DURING THE PAST	HELPED ME CO WITH STRESS	
TWO WEEKS:		Does
	Quite a bit	not
	Moderately	
_	A little bit	apply
,		
Letters from home		X
Rumors		\times
Information from my command		\times
Family problems		\times
Heat and climate		\times
Entertainment we create ourselves		\times
Chain of command		\times
Other soldiers in my unit		\times
Improvements in living conditions		\times
Sports		\times
Rest days		\times
Lack of variety in the things we do		\times
Trips to rest areas		\times
Phone calls home		\times
Information about Iraq		\times
Training		\times
Health concerns		\times
Choices as to how I spend my time		\times
Not knowing if we will go into combat		\times
Length of time between field rotations		\times
Chaplain visits		\times
Our present living conditions		\times
Reading books		\times
Watching TV		\times
Cold sodas and munchies		\times
Where we are deployed in Saudi Arabia		\times
AFN radio		\searrow
Conditions of rest areas		\mathcal{L}
The desert		\searrow
Newspapers		\searrow
Sanitary conditions	QQQ	\searrow
Length of tour		\searrow
What I think the Iraqis might do		\bigcirc

CAUSED ME STRESS:				
Quite a bit Moderately A little bit	Does not apply			

Below is a list of problems and complaints that people sometimes have. Read each one carefully, and select the bubble that best describes how much DISCOMFORT that problem has caused you DURING THE PAST WEEK.

		EXTI	EME	
		QUITE A B	IT	
	MO	DERATE		
		E BIT		
	NONE			
•				
1. Nervousness or shakiness inside.			\searrow	
2. Repeated unpleasant thoughts.			$\mathbb{R}^{\mathbb{R}}$	
3. Faintness or dizziness.			\searrow	
4. Loss of sexual interest or pleasure.			\mathbb{N}	
5. Feeling critical of others.			> >	
6. The idea that someone else can control your thoughts.	·			
7. Feeling others are to blame for most of your troubles.		$ \mathcal{S} $	$\mathbb{R}^{\mathbb{R}}$	
8. Trouble remembering things.			\mathbb{N}	
9. Feeling easily annoyed or irritated.			\mathbb{N}	
10. Pains in heart or chest.			>>>>	
11. Feeling afraid in open spaces.			> > >	
12. Feeling low in energy or slowed down.	•			'
13. Thoughts of ending your life.				
14. Feeling that most people cannot be trusted.				
15. Poor appetite.				
16. Crying easily.	• • • • • • • • • • • • • • • • • • •			
17. Suddenly scared for no reason.				
18. Temper outbursts that you could not control.			$\bigcirc \bigcirc $	
and the second of the second o			00	0
19. Feeling lonely even when you are with people.		X X	$\times \times $	\times
20. Feeling blocked in getting things done.		$\times \times$	$\times \times $	$ \times $
21. Feeling lonely.		\times	$\times \mid \times \mid$	
22. Feeling blue.		X X	$\leq \mid \leq \mid$	1
23. Worrying too much about things.			$\times \times $	>>
24. Feeling no interest in things.				
25. Feeling fearful.			QQ	(2)
26. Your feelings being easily hurt.			$\mathbb{R}^{\mathbb{N}}$	
27. Feeling others do not understand you or are unsympathetic.				
28. Feeling that people are unfriendly or dislike you.				
29. Feeling inferior to others.				
30. Nausea or upset stomach.		\bigcirc	(10)	
and the contract of the contra				

Below is a list of problems and complaints that people sometimes have. Read each one carefully, and select the bubble that best describes how much		EXTREM	TE
DISCOMFORT that problem has caused you DURING THE PAST WEEK.		E A BIT	
	MODERA' A LITTLE BIT		
NONI			
31. Feeling that you are watched or talked about by others.		Q	Q Q
32. Trouble falling asleep.		$ \mathcal{A} $	\mathbb{N}
33. Having to check and double-check what you do.		$ \mathcal{A} $	\mathbb{N}
34. Difficulty making decisions.		$\langle \rangle \langle $	$\times \times$
35. Feeling afraid to travel.		$ \mathcal{A} $	\mathbb{N}
36. Trouble getting your breath.		$\mathcal{I} \cup \mathcal{I}$	$\cup \cup $
37. Hot or cold spells.		$ \mathcal{A} $	$\mathbb{Z}\mathbb{Z}$
38. Having to avoid certain things, places or activities because they frighten you.		$2 \mathbf{S} $	\mathbb{N}
39. Your mind going blank.		$\langle \times $	$\times \times$
40. Numbness or tingling in parts of your body.		$ \mathcal{A} $	$\times \times$
41. The idea that you should be punished for your sins.		$\langle \times $	$\times \times$
42. Feeling hopeless about the future.		$\mathcal{I} \mathcal{I} \mathcal{I}$	
43. Trouble concentrating.		$\langle \rangle \langle $	$\times \times$
44. Feeling weak in parts of your body.		$\langle \rangle \langle $	$\times \times$
45. Feeling tense or keyed up.		$\langle \rangle \langle $	$\times \times$
46. Thoughts of death or dying.			$\times \times$
47. Having urges to beat, injure or harm someone.	15-215	$ \cdot $	$\times \times$
48. Sleep that is restless or disturbed.		가기	
49. Having urges to break or smash things.			$\times \times$
50. Feeling very self-conscious with others.		$\prec \mid \succ \mid$	$\times \times$
51. Feeling uneasy in crowds.		$\langle \times $	$\times \times$
52. Never feeling close to another person.		$\langle \times $	$\times \times$
53. Spells of terror or panic.		시)시[$\times \times$
54. Getting into frequent arguments.			
55. Feeling nervous when you are alone.		$\langle \rangle \langle $	$\times \times$
56. Others not giving you proper credit for your achievements.		$\langle \times $	$\times \times$
57. Feeling so restless you couldn't sit still.			$\times \times $
58. Feelings of worthlessness.		31331	3
59. Feeling that people will take advantage of you if you let them.		$\leq \leq $	\times
60. Thoughts and images of frightening nature.			
	1000	50	
61. Feelings of guilt.		~{ >-{	当 己
62. The idea that something is wrong with your mind.		$\leq \succeq $	30
63. Spending less time with peers and friends.			

Appendix D

Operation Desert Storm Short Survey

OPERATION DESERT SHIELD/STORM

Survey Approval Authority: US Army Personnel Integration Command Survey Control Number: ANTC - AO - 91 - 12A

PLEASE USE THE PENCIL WE PROVIDED. FILL IN THE BUBBLE WHICH CORRESPONDS TO YOUR ANSWER. PLEASE BE SURE TO FILL IN THE MIDDLE OF THE BUBBLE LIKE THE EXAMPLE BELOW. YOU DO NOT NEED TO FILL IN THE WHOLE BUBBLE!

	PROPER MARK	
	IMPROPER MARKS	
	<u>(4)</u>	
LAST NAME: (Please Print)	Please write the last four digits of your social security number	If applicable, please enter your battalion and regiment number in the
ΓΟDAY'S DATE:	and fill in the corresponding bubble below.	boxes and fill in the corresponding bubble below.
THE COMPLETE NAME OF		
THE UNIT/COMPANY THAT	12222	181888
OU ARE IN TODAY:	$\frac{1}{2}$	$\frac{1}{2}$
<u></u>	$\frac{3}{4}$	$\frac{3}{4}$ $\frac{3}{4}$ $\frac{3}{4}$ $\frac{3}{4}$ $\frac{3}{4}$
·	⁴ 8888	$\frac{1}{5}$ $\frac{1}$
	~ XXXX	
	7 8888	$\ddot{7} \times \ddot{7} \times \times \times$
	\$ XXXX	
	38888 I	38388 38388 38388
	,0000	
		ompany at the time you were deployed
What is your <u>company</u> ?	\bigcirc 0 - 3 months	13 - 18 months
A Co. D Co.	4 - 6 months	19 - 24 months
B Co. E Co.	7 - 12 months	More than 2 years
C Co. HHC		
Other (use the line provided).		atoon at the time you were deployed?
	\bigcirc 0 - 3 months	13 - 18 months
	4 - 6 months	19 - 24 months
What is your platoon?	7 - 12 months	More than 2 years
First Mortar		
Second Scout		uad/section at the time you were deploy
Third	\bigcirc 0 - 3 months	13 - 18 months
Other (use the line provided).	4 - 6 months	19 - 24 months
• •	() 7 - 12 months	() More than 2 years

	WE WOULD LIKE SOME	MEODMA	TION AROUT VO	TI	
Age on last birthday:	What is your race/ethnic gr White Black Oth Hispanic	roup?		rrent marital stati	us? Other
1 2 2 3 3 4 5 5 5 6 7 8 9	What is your rank? PVT SPC/O PV2 SGT SSG How many children do you 0 1 2 3 4		Are you: Male What is the high you have con Some high school did GED	iploma Some	ion that e college ge graduate uate training
	STIONS HAVE TO DO WITH	L VOUD EVI	DEDIENCES IN AI	PERATION DESE	BT SHIELD
Before coming to Saudi Ar I was a member of the: (Please fill in only one but	National Guar National Guar bble.) Active Army v	rd who VOL rd whose uni who VOLUN	was DEPLOYED for UNTEERED for the it was DEPLOYED I TEERED for the Op as DEPLOYED for the	Operation in Saud for the Operation in eration in Saudi Ar	i Arabia. Saudi Arabia abia.
1-3 ye	one year	WO	the time you were orked with most (more mbers of your square 0 - 3 months 4 - 6 months 7 - 12 months	ore than half) of the d/section: 13 - 1 19 - 2	8 months 4 months than 2 years
					[]
Think about your unit as it	is <u>today</u> .	LOW	AVERAGE	HIGH	Does I Not
HOW EFFECTIVE A LEA	DER IS:	1	$ \begin{array}{cccc} 2 & 3 \\ & \bigcirc & \end{array} $	4 5	Apply
Your Platoon Sergeant? Your Platoon Leader? Your First Sergeant? Your Company Commando Your Squad Leader/Section	vr? n LeaderfTank Commander?				

TO THE RESIDENCE WORLD SEE AND ASSESSED THE RESIDENCE OF THE RESIDENCE OF THE PROPERTY OF THE

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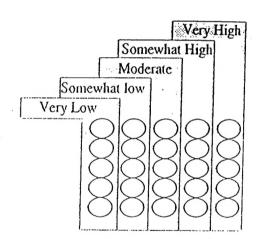
49/4537/4

PLEASE ANSWER EACH OF THE FOLLOWING QUESTIONS ABOUT YOUR SPOUSE OR CHILDREN ONLY IF YOU ARE MARRIED OR A SINGLE PARENT.

Are there currently any problems in your family that require you to be home? Have you requested to return home due to a family problem? At the time you deployed, were you or your spouse pregnant? Have you or your spouse had a baby in the past 4 months?	YES	NO	
Were there any problems in your family BEFORE you deployed? None Minor Major			

What is your level of confidence in each of the following?

The effectiveness of your unit Family support Group.
That your family will be taken care of if you are killed or injured.
That Family Support Groups will help your family if needed.
That the Rear Detachment will help your family if needed.
That your family is safe back home.



Please indicate how much worry or stress the following events might cause you <u>SHOULD COMBAT OCCUR</u>:

Having a buddy wounded or killed in action.

Attack by enemy aircraft.

Reliability of your personal weapon in the desert.

Being wounded or killed in action yourself.

Having a leader in your company wounded or killed in action.

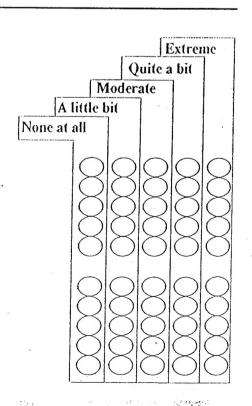
Having to kill or wound the enemy.

Attack by enemy tanks.

Receiving adequate medical care if you are wounded.

Attack by enemy artillery.

Chemical or biological attack by the enemy.



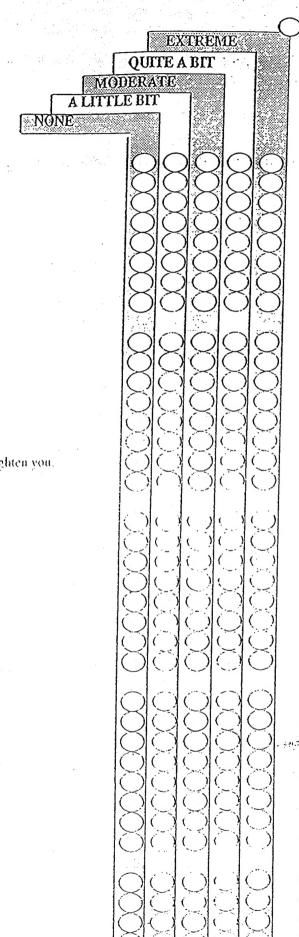
PLEASE USE THE FOLLOWING SCALE TO TELL US HOW MUCH YOU AGREE or DISAGREE WITH THE STATEMENTS BELOW:

1= STRONGLY DISAGREE 2= DISAGREE 3= CAN'T SAY 4= AGREE 5= STRONGLY AGREE

4.0 *10 *10 *10 *10 *10 *10 *10 *10 *10 *1	LD.	oes
AS YOUR UNIT IS TODAY:	1	Vot
	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	pply
There is a lot of teamwork and cooperation among soldiers in my company.	-0000000	\supset
Officers most always get willing and whole-hearted cooperation		
from soldiers in this company.	0000010	\mathcal{L}
NCO's most always get willing and whole-hearted cooperation from soldiers in this company.		$\overline{}$
My leaders are better than the leaders of other units.	222221	\prec
People in this company feel very close to each other.		\prec
I spend my time when not on duty with people in this company.		\prec
- Poop on the contract of the	1 2 3 4 5	ノ
My closest relationships are with the people I work with.		7
I am impressed by the quality of leadership in this company.		\prec
I would go for help with a personal problem to people in the)
company chain-of-command.	00000	$\overline{}$
Most of the people in this company can be trusted.	- 88888818	\leq
My superiors make a real attempt to treat me as a person.	- 0000012	5
In this <u>company</u> , people really look out for each other.		5
	1 2 3 4 5	
The officers in this <u>company</u> would lead well in combat.	000010)
The NCO's in this company would lead well in combat.	000000)
Soldiers in this company have enough skills that I would trust them.		
with my life in combat.	QQQQQQQ).
I spend a lot of time with members of my platoon when not on duty.	QQQQIQ)
I can go to most people in my squad for help when I have a personal problem.	2222212	2
Most people in my squad would lend me money in an emergency.	00000)
My Platoon Sergeant talks to me personally outside normal duties.		
My Platoon Leader talks to me personally outside normal duties.	\times	⟨
My First Sergeant talks to me personally outside normal duties.	XXXXXIX	$\langle \cdot $
My officers are interested in my personal welfare.	XXXXXXX	$\langle $
The Company Commander talks to me personally outside normal duties.		
My NCO's are interested in my personal welfare.	XXXXXXX	\int
	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	
My officers are interested in what I think and how I feel about things.	000000)
My NCO's are interested in what I think and how I feel about things.		
If we went to war tomorrow, I would feel good about going with mysquad.	0000010)
If we went to war tomorrow, I would feel good about going with myplatoon.	0000010)
My chain of command works well.	000000)
I have a lot of confidence in my Company Commander's ability to		
lead the unit in combat.	2222010)
can go to most people in my <u>platoon</u> for help when I have a personal problem.	222200	1
am well trained to go into combat.	QQQQQQQ	1
My squad is well trained to go into combat.	00000	

Below is a list of problems and complaints that people sometimes have. Read each one carefully, and select the bubble that best describes how much DISCOMFORT that problem has caused you DURING THE PAST WEEK.

- 1. Nervousness or shakiness inside.
- 2. Repeated unpleasant thoughts.
- 3. Faintness or dizziness.
- 4. Loss of sexual interest or pleasure.
- 5. Trouble falling asleep.
- 6. Feeling afraid to travel.
- 7. Trouble getting your breath.
- 8. Trouble remembering things.
- 9. Feeling easily annoyed or irritated.
- 10. Pains in heart or chest.
- 11. Feeling afraid in open spaces.
- 12. Feeling low in energy or slowed down.
- 13. Thoughts of ending your life.
- 14. Hot or cold spells.
- 15. Having to avoid certain things, places or activities because they frighten you.
- 16. Crying easily.
- 17. Suddenly scared for no reason
- 18. Numbress or tingling in parts of your body.
- 19. Feeling fonely even when you are with people
- 20. Feeling hopeless about the future.
- 21. Feeling lonely.
- 22. Feeling blue.
- 23. Worrying too much about things.
- 24. Feeling no interest in things.
- 25. Feeling fearful.
- 26. Trouble concentrating.
- 27. Feeling others do not understand you or are unsympathetic.
- 28. Feeling weak in parts of your body.
- 29. Feeling tense or keyed up.
- 30. Nausea or upset stomach.
- 31. Thoughts of death or dving.
- 32. Sleep that is readess of disturbed.
- 33. Feeling uneasy in crowds.
- 34. Spells of terror or panic.
- 35. Feeling so restless that you couldn't sit still.
- 36. Feelings of worthlessness.
- 37. Thoughts and images of frightening nature.
- 38. Feelings of guilt,



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